DataWedge 3.0

Advanced Configuration Guide

DataWedge Advanced Configuration Guide

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Patents

This product is covered by one or more of the patents listed on the website: www.symbol.com/patents

Warranty

Revision History

Changes to the original manual are listed below:

Change	Date	Description
Rev 1	10/2008	Initial Draft

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About This Guide

Introduction

DataWedge is a Motorola mobile device application that reads data from input devices and sends it as keystrokes to consumer applications executing in the foreground on the mobile devices.

DataWedge runs on Motorola mobile devices that operate on Windows CE 5.0 and Windows Mobile 5.0 operating systems.

This document describes the features and functionality of DataWedge 3 and then goes on to explain how to configure these features and functionality to interoperate with user applications.

Notational Conventions

The following conventions are used in this document:

- “device” refers to any Motorola enterprise mobility device.
- “User” refers to anyone using an application on the device.
- “You” refers to the End User, System Administrator or Technical Support person using this manual as a reference to install, configure, operate, maintain and troubleshoot DataWedge.
- *Italics* are used to highlight the following:
  - Chapters and sections in this and related documents
  - Dialog box, window and screen names
  - Drop-down list and list box names
  - Check box and radio button names
  - Icons on a screen.
- **Bold** text is used to highlight the following:
  - Key names on a keypad
  - Button names on a screen or window.

- bullets (•) indicate:
  - Action items
  - Lists of alternatives
  - Lists of required steps that are not necessarily sequential
- Sequential lists (e.g., those that describe step-by-step procedures) appear as numbered lists.

NOTE This symbol indicates something of special interest or importance to the reader. Failure to read the note will not result in physical harm to the reader, equipment or data.

CAUTION This symbol indicates that if this information is ignored, the possiblity of data or material damage may occur.

WARNING! **This symbol indicates that if this information is ignored the possibility that serious personal injury may occur.**

Chapter 1 Advanced Configuration Overview

Introduction

This chapter provides an overview of components used in DataWedge 3. DataWedge 3 is different from previous versions of DataWedge in several notable areas which are described in this chapter.

The new version of DataWedge has an architecture based on Profiles (See *Profiles*) and functionality that is based on Plug-ins (See *Plug-ins*). Through the use of plug-ins, the functionality of DataWedge can be modularized into manageable parts which can be configured to change its functionality according to the foreground application.

The configuration data of DataWedge 3 is stored in XML allowing easy deployment of DataWedge across many mobile devices with different platforms. A web-based interactive user interface is provided to manipulate that data and configure DataWedge.

Profiles

A profile contains information on how DataWedge should behave with different applications.

Profile information consists of;

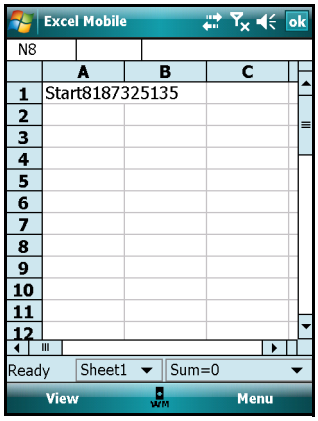
- One or more applications
- One or more data routes (path of the data flow from input plug-in through one or more process plug-ins to an output plug-in)
- Input plug-in configurations
- Output plug-in configurations
- Process plug-in configurations (ordered set of process plug-ins with their configurations for each data path).

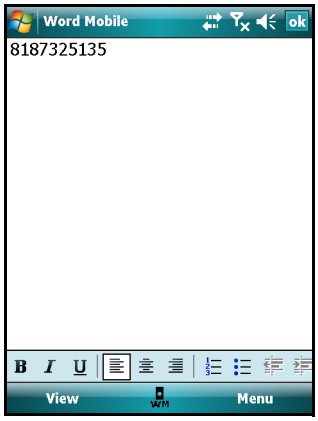
DataWedge has a pre-configured default profile, *Profile0* (See *Profile0*), which is created automatically the first time DataWedge is run. Apart from Profile0, DataWedge supports user defined profiles.

Why Profiles

Through the use of profiles, each application can have a DataWedge configuration tailored to it. For example, each user application can have a profile which outputs scanned data in the required format when that application comes

to the foreground. Thus DataWedge can be configured to process the same set of captured data differently based on the requirements of each application.





The figures above show two applications associated with two individual profiles. These figures show the data as it appears in each application after scanning the same barcode. The profile which the first application is associated to has been configured to add the prefix "Start" to the scanned data and the other profile which the second application is associated with has not been configured to perform data modifications, thus the scanned data remains unmodified.

Profile0

Profile0 is the generic default profile which is used when there are no user created profiles associated with an application. It has the barcode scanner plug-in set as the input plug-in and the keystroke plug-in set as the output plug-in, and includes configuration information for both scanner and keystroke plug-ins.

As the default profile, Profile0 can be edited but cannot be associated with an application. That is, DataWedge allows manipulation of data routes and the plug-in settings for Profile0 but it does not allow assignment of a foreground application. This configuration allows DataWedge to send output data to any foreground application other than applications associated with user-defined profiles when Profile0 is enabled.

Profile0 can be disabled if required. This allows DataWedge to only send output data to those applications which are associated in user-defined profiles. For example, if Profile0 is disabled, DataWedge is set to auto profile selection, and there are two user-created profiles associated with two different applications, then DataWedge only sends data to those applications specified in the user-created profiles. This adds additional security to DataWedge enabling the sending of data only to specified applications. (See *Profile Selection*)

Plug-ins

A plug-in is a software module utilized in DataWedge to extend its functionality to encompass technologies such as Barcode scanning and RFID. The plug-ins can be categorized into three types based on their operations.

- Input plug-ins
- Process plug-ins
- Output plug-ins

Input Plug-ins

An input plug-in supports an input device, such as a barcode scanner contained in, or attached to a Motorola mobile computer. DataWedge contains base plug-ins for these input devices.

Barcode Scanner Plug-in

The barcode scanner plug-in is responsible for reading data from the integrated barcode reader. The scanner plug-in supports different types of barcode readers including laser, imager and camscan (Camera Scan). Raw data read from the barcode reader can be processed or formatted using process plug-ins (See *Process Plug-ins*) as required. DataWedge has built-in feedback functionality for the barcode reader to issue user alerts. The feedback settings can be configured according to user requirement.

Output Plug-ins

The output plug-in is responsible for dispatching the data read from input plug-ins to a foreground application on the mobile device.

Keystroke Plug-in

The Keystroke Plug-in is an output plug-in that collects and sends data received from input plug-ins to foreground applications by emulating keystrokes.

Process Plug-ins

ADF Process Plug-in

The term ADF is an acronym for Advanced Data Formatting. The ADF plug-in applies rules (actions to be performed based on defined criteria) to the data received from the input plug-in before sending it to the foreground application through an output plug-in. Received data is processed through a set of ADF rules that can be defined when configuring DataWedge. For those familiar with the ADF as supported by Motorola Hand Held Scanners, the ADF plug-in provides equivalent functionality.

Rules

The ADF process plug-in consists of one or more rules. DataWedge formats the output data according to the first matching rule. A rule is a combination of criteria and a set of actions to be performed, upon fulfillment of the criteria set in the rule.

Criteria

Criteria can be set according to input plug-in device, symbology, or matching string within the data (at the specified position and length). Received data must match the defined criteria in order for the data to be processed by the rule.

Actions

Actions are a set of procedures defined to format data. For example an action can be defined to send the first number of characters to the output plug-in, pad the data buffer with a character or string, remove spaces in data, etc.

Basic Format Process Plug-in

The Basic Format (aka Prefix/Suffix) plug-in is similar to the prefix/suffix feature that exists in earlier versions of DataWedge and it allows DataWedge to add either a predefined prefix or a suffix to the captured data before passing it to an output plug-in.

The Basic Format process plug-in allows setting a string, sticky keys (See *Sticky Key Definitions*), virtual keys (See *Virtual Key Codes*), control characters (characters sent by pressing Ctrl key) and escape sequences (See *Escape Sequences Supported by DataWedge*) at the beginning or at the end of the data received from the input plug-in. Also this process plug-in can be used to send data in hexadecimal format, append TAB and/or ENTER keys or restrict sending data.

Data Routes

A data route specifies the path data takes inside DataWedge, starting from an input plug-in, optionally going through one or more process plug-ins, and ending at an output plug-in. Each route allows one source input plug-in and one destination output plug-in. When there are many input and output plug-ins, the way in which data flows from one input plug-in, through any process plug-ins, and finally to an output plug-in can be specified using routes.

Route Structure of a Profile

A profile can have multiple configurations for given process plug-ins depending on the data routes it is associated with. However, only a single instance of input and output plug-in configuration can be associated with a profile.

For example review the below given scenarios for a newly created profile. In the first instance, the data route of the profile has;

- Scanner input plug-in
- ADF process plug-in and
- Keystroke output plug-in

In the second data route of the same profile has;

- Scanner input plug-in
- ADF process plug-in
- Basic format process plug-in and
- Keystroke output plug-in

In the first scenario the profile configuration includes a single configuration for scanner input plug-in, single configuration for keystroke output plug-in, single configuration for ADF process plug-in but in the second scenario, the data route of the profile has multiple process plug-ins (ADF and Basic format) to facilitate multiple processing requirements i.e. data is sent to the foreground application in multiple formats.

Chapter 2 Getting Started

Installation

DataWedge can be installed on a mobile device via a PC or by copying the DataWedge.cab file found in C:\Program Files\Motorola DataWedge\Cab\ to the mobile device and executing it.

The DataWedge installation package is available from the Motorola Product Support site at http://support.symbol.com/support/product/DEV_SW_TOOLS.html.

Installing DataWedge on a PC

Run the DataWedge installation package on the PC. Follow the instructions provided by the installation wizard to complete the installation. The following files/folders are installed on the PC.

- Cab\DataWedge.CAB - DataWedge Cabinet file
- INI\DataWedge.ini - DataWedge configuration settings file
- DataWedgeInstaller.exe - Executable program to install DataWedge on a mobile device
- DataWedge Configuration Guide
- Remote Config\ - DataWedge Remote Configuration folder
- Readme.htm - Quick reference file
- WebUpdates.htm - DataWedge updates web location

Installing DataWedge on a Mobile Device

Automated Installation

1. Establish a Microsoft ActiveSync® connection between host PC and mobile device.
2. On the host PC, go to Start > Programs > Motorola DataWedge > Install DataWedge to initiate the automatic installation process.
3. A screen displaying installation details appears on the mobile device.

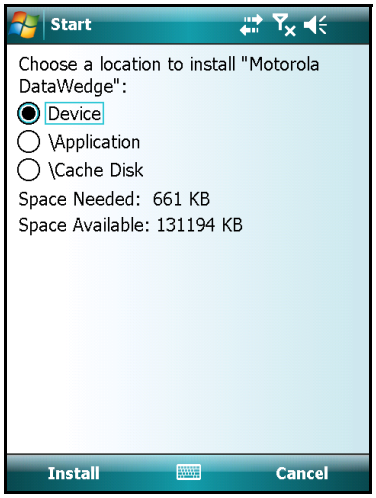


Figure 2-1 *Installation Location Details*

Select the preferred install location using the radio button and press **Install** to proceed with the installation of DataWedge on the mobile device.

4. Wait a few moments while DataWedge is installed to the mobile device. After a successful installation, a message window appears to announce that DataWedge is installed.

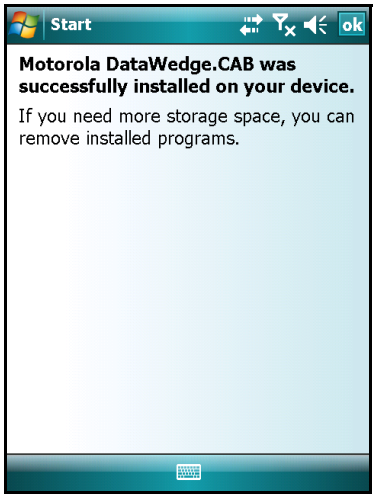

Start
ok
Motorola DataWedge.CAB was successfully installed on your device.
If you need more storage space, you can remove installed programs.

Figure 2-2 *Successful Installation Notofication*

Tap ok to close the message window.

5. After the installation is completed DataWedge starts automatically.

Manual Installation

1. Establish a Microsoft ActiveSync® connection between host PC and the mobile device.
2. Go to *Start Menu* > *Programs* > *Motorola DataWedge* > *Manual Installation* and copy *DataWedge.CAB* to the mobile computer.
3. Run DataWedge.CAB on the mobile computer to install DataWedge. Follow the installation procedure to successfully install DataWedge on the mobile device.

Using StartUpCtl for Cold/Clean Boot Persistence

Using the *Motorola StartUpCtl* utility, DataWedge can be installed on the mobile device for persistence following clean/cold boot sequences.

1. Download the StartUpCtl installation package from Motorola Product Support site at http://support.symbol.com/support/product/DEV_SW_TOOLS.html.
2. Install StartUpCtl on the mobile device. Refer to the *StartUpCtl User Manual* for details on how to install StartUpCtl on the mobile device.
3. Create *OnRestore_DataWedge.txt* file and enter the following command.

   ```
   \Windows\wceload.exe /noui /delete 0 "\Application\DataWedge.cab"
   ```

4. Copy the OnRestore_DataWedge.txt file to the *Application\StartUpCtl\OnRestore* folder of the mobile device.
5. Go to *Start Menu* > *Programs* > *Motorola DataWedge* > *Manual Installation* and copy *DataWedge.CAB* to the *\Application* folder of the mobile device. The DataWedge.CAB file is copied to the \Application folder, since that folder has been set as the location for the DataWedge.CAB in the OnRestore_DataWedge.txt file

When the mobile device goes through a clean/cold boot cycle, StartUpCtl automatically reinstalls DataWedge.

Mass Deployment of DataWedge Configurations

Once DataWedge configuration is completed, the settings and profile information can be cloned to other mobile devices.

> ***NOTE*** The configurations done on a mobile device can ONLY be deployed on an identical mobile device (i.e. same hardware and operating system). Attempting to deploy the same configurations on a different mobile device may not yield the expected results.

To deploy DataWedge settings on multiple mobile devices copy the *\Program Files\DataWedge\Config* folder from the source mobile device (mobile device on which DataWedge was configured) and save that folder in the same location on the other devices.

Run or restart DataWedge on the cloned mobile devices for the settings to take affect.

Installing without DataWedge Icons

DataWedge can be installed without DataWedge quick launch options such as the tray icon menu or the Start Menu links on the device side. This alternative method may be required to avoid unauthorized access to DataWedge configuration settings. Other instances for using this feature can be to centralize a mass configuration of DataWedge settings via a PC and for making use of a third party application to control and configure DataWedge. The following methods describe how to install DataWedge without the quick launch options.

With Remote Configuration Support

The following lists step-by-step procedures to install DataWedge without the quick launch options on the mobile device side and allowing only Remote Configuration (See *DataWedge Remote Configuration*) to access and configure DataWedge.

1. Install DataWedge on the PC
2. Install DataWedge on the mobile device via ActiveSync.
3. Install Motorola StartUpCtl utility on the PC.
4. Install StartUpCtl on the mobile device via ActiveSync
5. Using ActiveSync navigate to the *\Application\StartUpCtl\OnReset* folder on the mobile device and copy the *OnReset.txt* file to the host PC. Open the OnReset.txt it and add the following two lines.

   ```
   "\Program Files\DataWedge\DataWedge.exe"
   "\Program Files\DataWedge\dwhttpd.exe"
   ```

6. Save and copy the file back to the \Application\StartUpCtl\OnReset folder on the mobile device.
7. Using ActiveSync navigate to the *Windows\StartUp* folder on the mobile device and delete the DataWedge shortcut (DataWedge.lnk).
8. Delete DataWedge shortcut from the start menu of the mobile device. The location o the shortcut varies depending of the operating system.
   - On Windows Mobile - \Windows\start menu\programs\DataWedge.lnk
   - On Windows CE - \Windows\Programs\DataWedge.lnk
9. Warm boot the device

NOTE When DataWedge is installed using this method, the configuration can only be done via the Remote Configuration option.

Without Configuration Support

1. Ensure that DataWedge is fully configured.
2. Follow the same steps described in Method 1 except for the entries made in the OnReset.txt file. Instead of having both entries, enter only the following in the OnReset.txt file.

   "\Program Files\DataWedge\DataWedge.exe"

NOTE When this method is implemented no DataWedge configuration option is available therefore make sure that the appropriate configuration is done prior to carrying out the above steps..

Uninstalling DataWedge

DataWedge can be uninstalled from the mobile device via the host PC or by using the Add/Remove Programs applet on the mobile device.

Remove DataWedge via Host PC

Method 1

1. Establish a Microsoft ActiveSync® connection between host PC and the mobile device.
2. On the host PC, go to *Start* > *Programs* > *Motorola DataWedge* > *DataWedge Installer*.
3. When *Applications Already Installed* prompt appears, select **No** to move to *Add/Remove Programs* window.

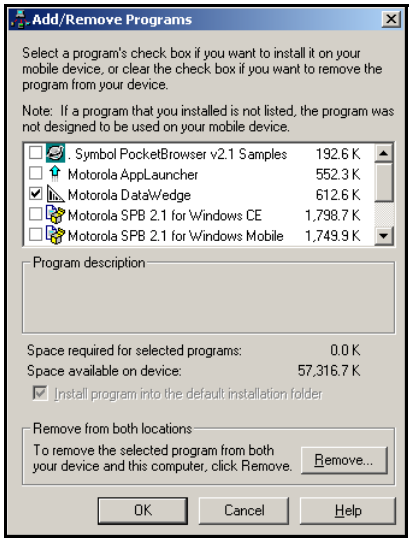

Add/Remove Programs
Select a program's check box if you want to install it on your mobile device, or clear the check box if you want to remove the program from your device.
Note: If a program that you installed is not listed, the program was not designed to be used on your mobile device.
Symbol PocketBrowser v2.1 Samples 192.6 K
Motorola AppLauncher 552.3 K
Motorola DataWedge 612.6 K
Motorola SPB 2.1 for Windows CE 1,798.7 K
Motorola SPB 2.1 for Windows Mobile 1,749.9 K
Program description
Space required for selected programs: 0.0 K
Space available on device: 57,316.7 K
Install program into the default installation folder
Remove from both locations
To remove the selected program from both your device and this computer, click Remove.
Remove...
OK
Cancel
Help

Figure 2-3 *Add/Remove Programs Window*

4. De-select the checkbox alongside *Motorola DataWedge* and press **OK** to remove DataWedge.

Method 2

1. Establish a Microsoft ActiveSync® connection between the mobile device and the host PC.
2. In the *Notification Area* of the host PC, right click the ActiveSync icon and select *Open Microsoft ActiveSync* option or alternatively, double-click the ActiveSync icon to open the Microsoft ActiveSync window.
3. In the Microsoft ActiveSync window go to Tools > Add/Remove Programs.
4. De-select the checkbox alongside Motorola DataWedge and press **OK** to remove DataWedge

NOTE Apart from the described methods, DataWedge can be uninstalled from both the host PC and from the mobile device by highlighting Motorola DataWedge from the list in the *Add/Remove Programs* window and pressing the **Remove** button under *Remove from both locations* panel. Press **OK** when the *Remove Application* dialog box appears, to confirm removal of DataWedge from the mobile device and the host PC. This option only removes the temporarily stored CAB file from the host PC and not the DataWedge program group which includes Readme, DataWedge Configuration Guide etc.

Remove DataWedge from Mobile Device

The method for uninstalling programs from the mobile device side differs slightly according to the operating system.

Mobile Devices Running Windows Mobile

1. On a Windows Mobile based mobile device, go to *Start Menu* > *Settings* to open the Settings window.
2. Select the *System* tab from the *Settings* screen.
3. Tap the *Remove Programs* icon.
4. Select *Motorola DataWedge* from the list and tap the **Remove** button. Tap the **Yes** button when the *Remove Program* dialog appears to uninstall DataWedge from the mobile device.

Mobile Devices Running Windows CE

1. On a Windows CE based mobile device, go to *Start Menu* > *Settings* > *Control Panel* to open the *Control Panel* window.
2. Tap the *Remove Programs* icon.
3. Select *Motorola DataWedge* from the list of installed programs and tap the **Remove** button. Tap the **Yes** button when the *Remove Program* dialog appears to uninstall DataWedge from the mobile device.

Chapter 3 DataWedge Configuration Mode

Introduction

DataWedge configuration is handled through a browser based interface. It consists of a hierarchy of menus which can be navigated using the keypad or the touch-sensitive screen (if present). The DataWedge configuration settings are saved in XML files.

DataWedge Tray Icon

DataWedge is launched on the mobile device upon successful installation. The tray icon appears on the windows taskbar to indicate that DataWedge is in operation. Tap on the icon to open the DataWedge tray icon menu.

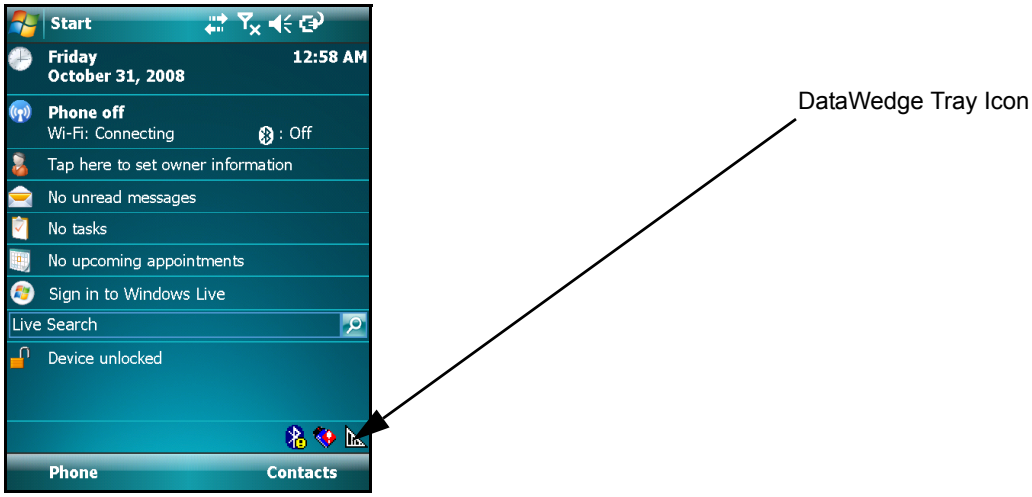


Figure 3-4 *Mobile Device Desktop (DataWedge Icon)*

DataWedge Tray Icon Menu

Use the tray icon menu to start/stop DataWedge, to access basic/advanced configuration modes and to terminate DataWedge activities on the mobile device.

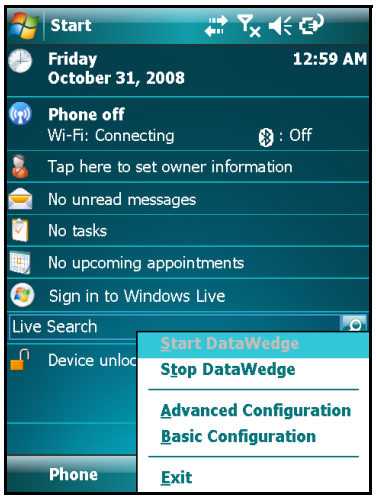


Figure 3-5 *DataWedge Tray Icon Menu*

- Select *Start DataWedge* to launch DataWedge on the mobile device.
- Select *Stop DataWedge* to stop DataWedge on the mobile device. When this option is selected, DataWedge can be launched again using the tray icon menu.
- Select *Advanced Configuration* to launch advanced configuration mode.
- Select *Basic Configuration* to launch basic configuration mode.
- Select *Exit* to close DataWedge on the mobile device. When this option is selected, DataWedge is shut down and the tray icon is hidden as well. To start DataWedge again use the Start Menu.

DataWedge Configuration Modes

The DataWedge Configuration is a XML/HTML based interface that can manipulate DataWedge settings. Changes made through the interface are saved in XML format and can be deployed to other mobile devices that have DataWedge installed allowing those mobile devices to have the same configuration.

There are two configuration modes are available for DataWedge.

Basic Configuration

For those users who only need the features of a basic ScanWedge, the basic configuration provides a simpler and quicker interface to a limited number of configuration options similar to that found in ScanWedge and earlier versions of DataWedge. The basic configuration is a limited view of Profile0, the default profile, configuration options. Configuration is limited to the Barcode input plug-in, Basic Format process plug-in and Keystroke output plug-in.

The basic configuration does not provide access to user-created profiles or other settings, nor does it affect any settings that may have been made through the Advanced configuration.

Refer to the *DataWedge Basic Configuration Guide* for more details.

Advanced Configuration

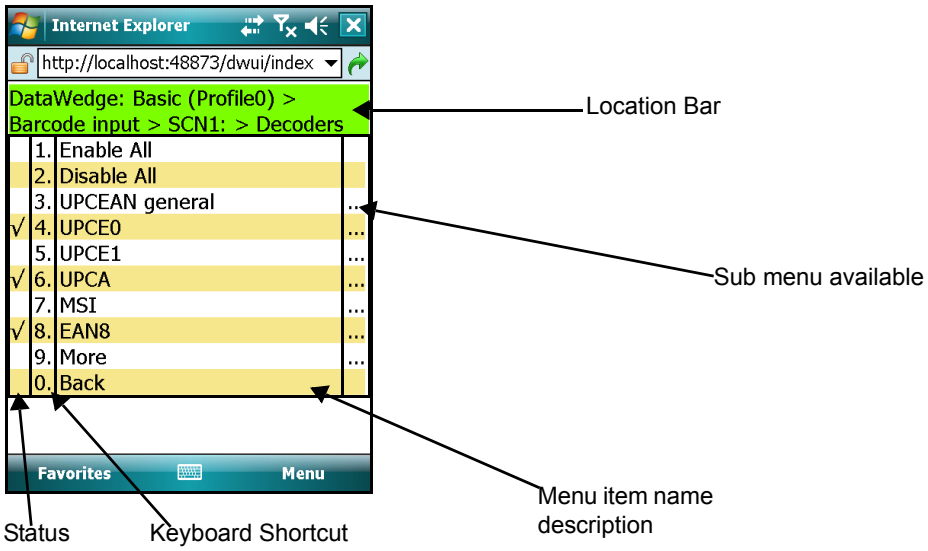
The advanced configuration allows users to create customized profiles. Use this mode to configure DataWedge to collect data from different input devices, process the captured data using both ADF and/or Basic Format plug-ins and send that processed data to different output devices.

In addition to multiple profile support, the advanced configuration mode also allows DataWedge specific settings to be configured via the Settings menu (See *Configuring DataWedge Settings*).

NOTE This document only explains the features and functionality of the advanced configuration mode.

General Format of User Interface

The DataWedge configuration user interface (UI) has a number of elements. Running across the top of the page is a location bar, which indicates the current location within the menu hierarchy.



The menu item list is formatted into four columns. The first is a status column indicating whether the item is enabled or not, where applicable. The second column gives the keyboard shortcut for that menu item, enabling navigation of the menu without the need of touch screen input. Column three is the name/description of the menu item. The fourth column is a sub menu indicator that generally displays ellipses ("…") if a sub menu is available for that menu item. Access the sub menu by selecting that menu item.

The "0" item is universally used as the shortcut to navigate to the previous page. In the main menu only, the "0" item is used to exit from the configuration utility.

Launching DataWedge Advanced Configuration

Select *Advanced Configuration* from the tray icon menu to access the advanced DataWedge configuration.

Advanced Configuration Main Menu

The advanced cnfiguration main menu is displayed on the mobile device screen. This page consists of four menu items, namely *Profiles, Settings, About* and *Exit*.

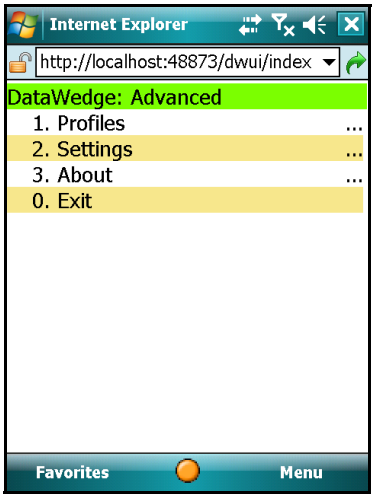


Figure 3-6 *Advanced Configuration Main Menu Page*

Use the appropriate keyboard shortcut or the touch screen to navigate through the main menu.

- Select *Profiles* to open the *Profiles* menu.
- Select *Settings* to open the *Settings* menu.
- Select *About* to display product information of DataWedge.
- Select *Exit* to exit from DataWedge advanced configuration mode.

NOTE Do not press any buttons until configuration menu is fully loaded as it might hamper the loading process.

Chapter 4 Configuring DataWedge Settings

This chapter provides information on how to set the general DataWedge configuration options. The configuration interface has built-in functionality to modify the general DataWedge settings.

Settings Menu

The *Settings* menu page is displayed when the *Settings* option is selected from the main menu. Use the Settings menu page to configure general DataWedge settings.

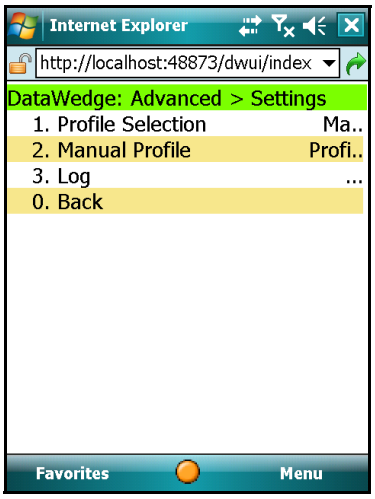


Figure 4-7 *Settings Menu Page*

- Use *Profile Selection* to select whether profile switching should be automatic or manual (See *Profile Selection* for more details).
- Use *Manual Profile* to select which profile to use when Profile Selection is set to "Manual" (See *Setting Manual Profile* for more details).
- Select *Log* to configure logging options (See *Configuring DataWedge Log Settings* for more details).
- Select *Back to* return to the main menu. Whenever exiting from the Settings menu, a dialog box appears prompting for confirmation on whether or not to save the changes made to the settings. Press **OK** to save the changes made.

Profile Selection

Use *Profile Selection* page to select whether profile switching should be automatic or manual. This setting enables/disables switching of profiles based on the foreground application on the mobile computer.

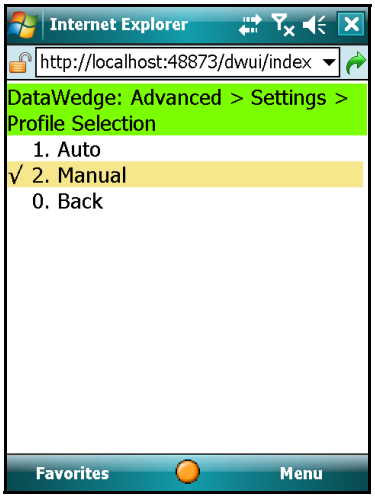


Figure 4-8 *Profile Selection Page*

Automatic Profile Selection

Auto profile selection enables switching between profiles based on the foreground application.

To enable automatic profile selection, select *Auto* from the Profile Selection menu.

When automatic profile selection is enabled, DataWedge monitors the foreground application in the mobile device by checking the application name of the foreground application (exe name). When DataWedge detects a change in the application name, it searches for the profile associated with that application and loads that profile. If an associated profile cannot be found, Profile0 is used.

The profile must be enabled for DataWedge to load it. i.e. DataWedge only loads profiles that have their status set to "*Enabled*".

Manual Profile Selection

Manual profile selection is similar in functionality to the earlier versions of DataWedge. When profile selection is set to Manual, DataWedge does not switch between profiles automatically, based on the foreground application, and only uses the profile specified in the Manual Profile page.

To enable manual profile selection, select *Manual* from the Profile Selection menu.

See *Setting Manual Profile* for details on selecting a manual profile.

Setting Manual Profile

Select the *Manual Profile* option from the Settings menu to move to *Manual Profile* page.

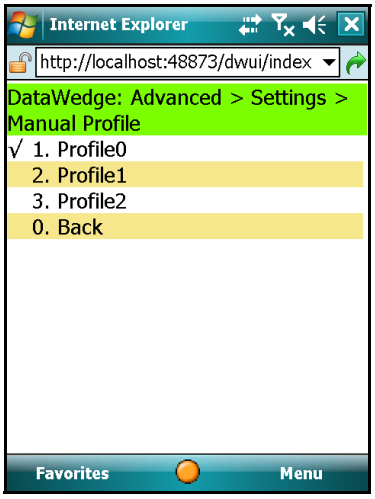


Figure 4-9 *Manual Profile Selection Page*

The manual profile selection page lists all of the available profiles. Select the desired profile name. Make sure that the profile selected is enabled (See *Enabling/Disabling a Profile*).

If the profile selection is set to manual and the selected profile is disabled, DataWedge cannot send data to the foreground application (See *DataWedge Behaviors*)

Manual Profile

The manual profile is the profile which is used by DataWedge when profile selection mode is set to "*Manual*". While in manual mode, DataWedge sends data only to the foreground application associated with the manual profile.

By default, the manual profile is set to Profile0. This setting allows DataWedge to send data to any foreground application. A user-created profile can be set as the manual profile using the Manual Profile selection page.

DataWedge Behaviors

The table below explains the different behaviors of DataWedge according to the Manual Profile and Profile Selection settings.

In this example, Profile1 is a user created profile which has App1.exe set as its associated application. Apart from Profile1, the default profile, Profile0, is also available in DataWedge.

Table 4-1 *DataWedge Behaviors*

Profile Selection Setting	Manual Profile Setting	Profile0 State (Enabled /Disabled)	User Created Profile (Profile1) State (Enabled /Disabled)	Current Foreground Application	DataWedge Behavior
Manual	Profile0	Enabled	Enabled or Disabled	Any application	DataWedge runs with Profile0 (the default profile) configuration
Manual	Profile0	Disabled	Enabled or Disabled	Any application	DataWedge is idle and does not send data to the foreground application
Manual	Profile1	Enabled or Disabled	Enabled	Any Application	DataWedge runs with Profile1 configuration
Manual	Profile1	Enabled or Disabled	Disabled	Any Application	DataWedge is idle and does not send data to the foreground application
Auto	Any profile	Enabled or Disabled	Enabled	App1.exe	DataWedge sends data to foreground application (App1.exe)
Auto	Any profile	Enabled or Disabled	Disabled	App1.exe	DataWedge is idle and does not send data to the foreground application. (App1.exe)
Auto	Any profile	Enabled	Enabled or Disabled	Any application except App1.exe	DataWedge runs with Profile0 configuration
Auto	Any profile	Disabled	Enabled or Disabled	Any application except App1.exe	DataWedge is idle and does not send data to the foreground application..

Configuring DataWedge Log Settings

Log File Overview

DataWedge application has built-in logging capabilities to record errors, warnings, and other diagnostic messages. These messages are saved to a text file (*DWLog.txt*).

The log file records the log entries in the following format:

<Time Stamp>:<Message Type>:Message

<Time stamp> is formatted as YYYY/MM/DD hh:mm:ss.

<Message Type> depicts the type of message that is logged. The following message types can be logged.

- Error - an error has occurred
- Warning - a warning is issued
- Message - DataWedge system messages, indicating it is performing a task etc.
- Data - data read from input devices and intermediate data modified by process plug-ins can be logged to the log file.

Sample Log File

```
$ 2009/09/09 02:49:32     Error     Invalid Configuration XML
```

Select the *Log* option from Settings menu to access the Log page.

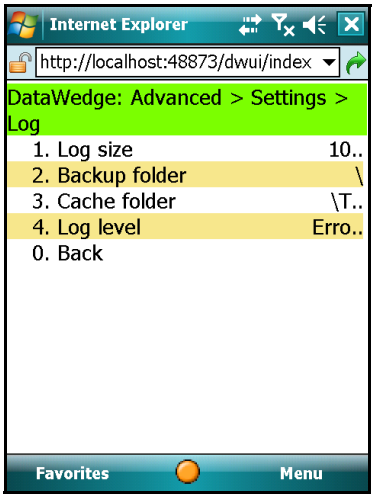


Figure 4-10 *Log Menu Page*

There are four configurable settings for the log file.

- Select *Log size* to set the physical size of the log file.
- Select *Backup folder* to define a location to save the log file.
- Select *Cache folder* to define a location in which the temporary log file is written.
- Select *Log level* to specify the type of information needed to be in the log file.

Define DataWedge Log Size

To set the physical size of the log file, select the Log size option to move to the Log size page.

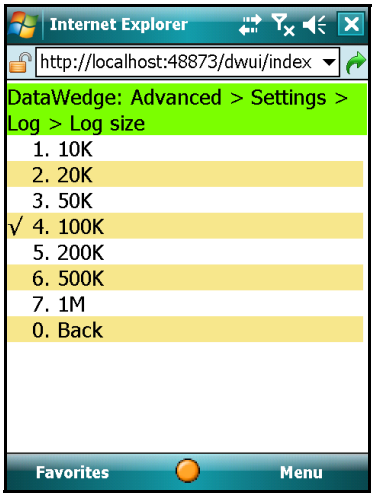


Figure 4-11 *Log Size Page*

Select the storage capacity to allocate for the log file. The maximum allowed size for the log file is 1 MB.

NOTE If the log file exceeds the set size, DataWedge backs up the text file (DWLog.bak) and creates a new log file (DWLog.txt) to save the new log entries. However, DataWedge creates only one back up file and the previously created backup file is replaced by the new back up file.

Define Log Backup Folder

The Backup folder specifies the location where DataWedge saves the log file upon exit or upon being stopped.

Select *Backup folder* from the Log menu page to move to the Backup folder page.

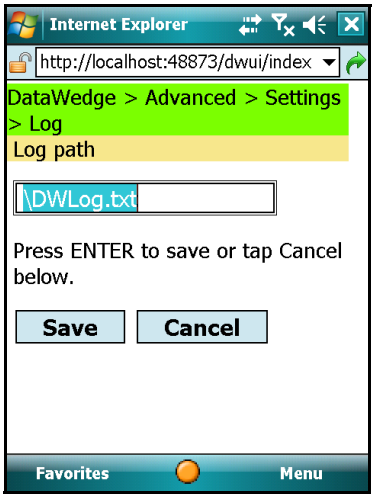


Figure 4-12 *Log Path Page*

Using the mobile device keypad and/or the onscreen keyboard, enter the backup folder for the log file, and then press **Save** to save.

DataWedge writes the log file to the folder specified upon exit or upon being stopped.

Define Cache Folder

The Cache folder specifies a location where the DataWedge log file is written to whilst DataWedge is running. Windows Mobile makes use of persistent (flash) storage for most of its folders. Writing to persistent (flash) storage can be slow, so DataWedge allows the use of non-persistent (RAM) storage to speed up the logging process.

Select *Cache folder* from the Log menu page to move to the Cache folder page.

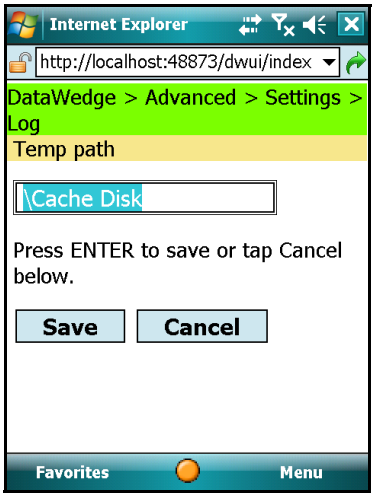


Figure 4-13 *Log Temp Path Page*

Use the mobile device keypad and/or the onscreen keyboard to enter the location for the temporary log file, and then press **Save**.

By default the cache folder is set to *Temp*. For many Motorola devices this default setting is acceptable. An alternative for Windows Mobile devices is *Cache Disk*.

Define Log Level

Select the *Log level* option from the Log menu to move to the Log level page.

The Log level specifies the level of detail that is logged. Log events up to the given level are written to the log file.

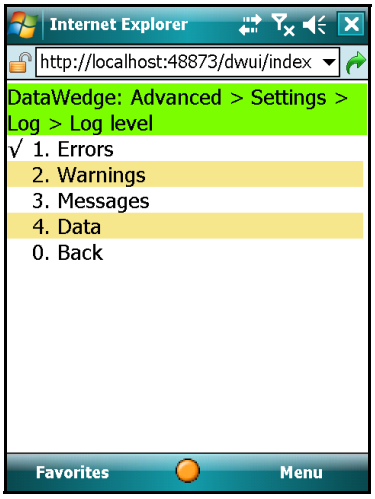


Figure 4-14 *Log Level Page*

Use the menu to set the log level.

- Select *Errors* to log only error messages.
- Select *Warnings* to log error and warning messages.
- Select *Messages* to log errors, warnings and messages.
- Select *Data* to log errors, warnings, messages and data in the log file.

Chapter 5 Managing Profiles

This chapter describes how to add and remove profiles and also provides a screen-by-screen tutorial of how to associate applications to the profiles.

From the DataWedge main menu page, select *Profiles* to access the Profile menu.

Profiles Menu

The Profiles menu is displayed when Profiles is selected from the main menu.

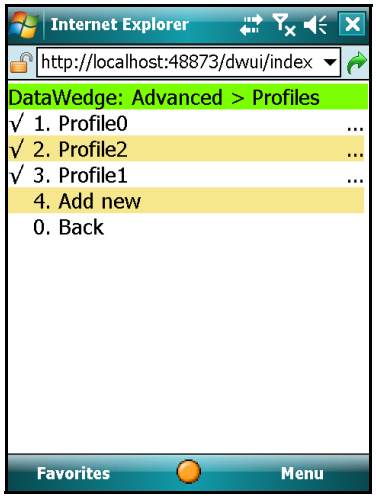


Figure 5-15 *Profiles Menu Page*

The Profiles menu page lists all the profiles used in DataWedge. Use this menu to access each profile configuration.

- Select *Profile0* to move to configure Profile0 (the default profile).
- Select *Add new* to add a new profile.
- Select *Back* to move to the previous page.

Creating a Profile

From the Profiles menu select the *Add new* option to create a new profile. DataWedge configuration moves to a profile name entry form and automatically suggests a unique profile name.

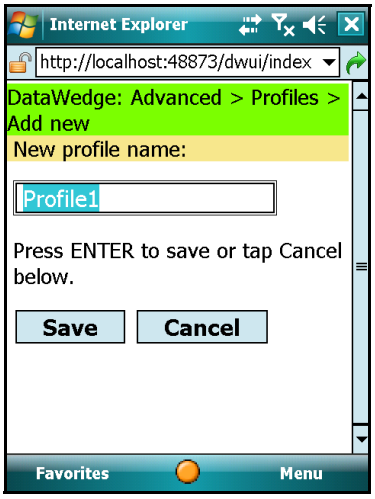


Figure 5-16 *Profile Name Entry Form*

Using either the device keypad or the onscreen keyboard, press **Save** to accept the suggested profile name, or enter a preferred name for the new profile and press **Save**.

NOTE Use only alphabetical characters and integers when defining a name for a profile.

When a new profile is created, DataWedge automatically assigns default settings to that profile. The new profile is added to the list of profiles. To configure the new profile select it from the profile list.

Profile Configuration Menu

Newly created profiles can be customized to suit user requirements.

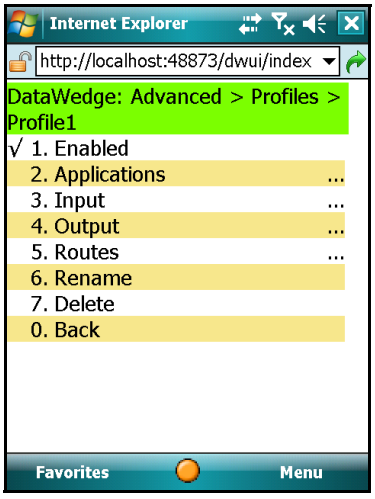


Figure 5-17 *User Defined Profile Menu Page*

By default, the new profile is enabled upon its creation.

- Select *Enabled* to enable/disable the profile
- Select *Applications* to associate an application to the profile.
- Select *Input* to configure an input plug-in for the profile.
- Select *Output* to configure an output plug-in for the profile.
- Select *Routes* to configure the routes for the profile.
- Select *Rename* to change the name of the profile.
- Select *Delete* to remove the profile.
- Select *Back* to exit the profile configuration. DataWedge prompts for confirmation to save the changes made to the profile. Select **OK** to save the changes made to the profile. Select **Cancel** to discard the changes made to the profile.

NOTE When exiting from the profile configuration menu, DataWedge saves the configuration information. Therefore, to save the changes made to a profile, select OK at the prompt when exiting from that profile.

Enabling/Disabling a Profile

To enable a profile, select *Enabled* from the profile configuration menu. When the profile is enabled, a tick (✓) is displayed alongside Enabled. If Enabled is selected while the profile is enabled, DataWedge disables that profile.

Deleting a Profile

To delete a profile, select the *Delete* option from the profile menu. The system requires confirmation for removal of a profile. Select **OK** to delete the profile. Select **Cancel** to abort the operation.

Application Association

Several applications can be associated to a profile. DataWedge sends the output data to whichever of these applications is in foreground.

When profile selection is set to "Auto", DataWedge loads the profile associated with the current foreground application and sends data to it using the selected output plug-in. (See *Setting Manual Profile* for more details)

Select the *Applications* option on the Profile menu to move to Applications page.

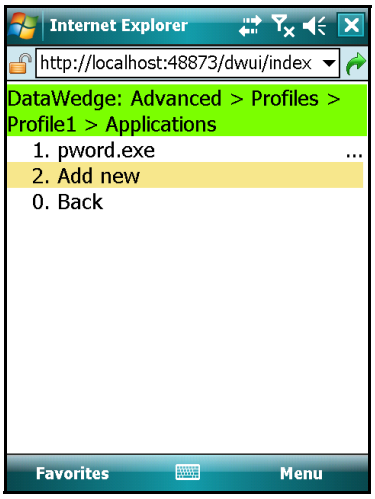


Figure 5-18 *Application Association Page*

The Applications page lists applications associated to the selected profile. Use this page to associate applications.

Adding Applications

Select the *Add new* option from the Applications page to move to the page where an application can be added to a profile.

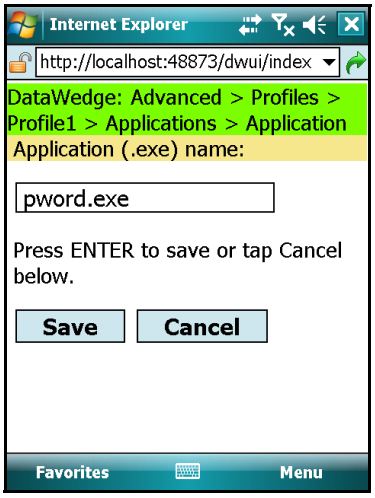


Figure 5-19 *Application Name Entry Form*

Use the mobile device keypad or the onscreen keyboard to enter the name of the application in the field and press **Save** to add it to the profile. The associated applications are displayed in the Applications menu of the profile.

Associated Application Menu

Select an application from the Applications menu to edit or remove that application.

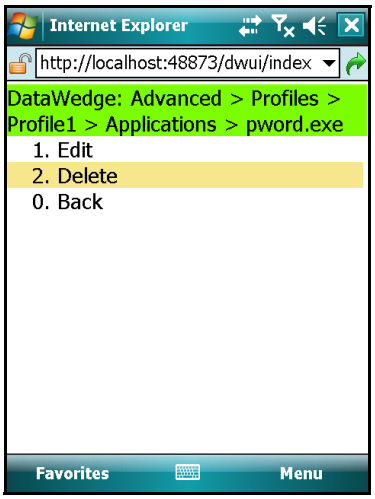


Figure 5-20 *Associated Application Menu*

Use this menu page to edit/remove the associated application.

- Select *Edit* to edit the application name. Using this option, it is possible to associate a different application (.exe) to the profile. The earlier set application is removed from the selected profile when a different name is saved.
- Select *Delete* to remove the application from the profile. At this point DataWedge configuration UI prompts the user for confirmation to delete the associated application from the profile. Select **OK** to confirm. Select **Cancel** to abort the deletion process.

Selecting a Data Route

Select *Routes* from the profile main menu to move to the page listing all available data routes.

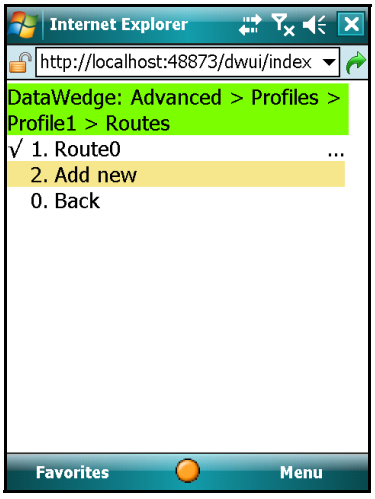


Figure 5-21 *Data Routing List*

- Use *Route0* menu item to access the default data route between the input, process and output plug-ins.

- Select *Add new* to add a new data route to the selected profile. A form appears containing a automatically generated unique name for the new route. Press **Save** to accept the name or change the name as desired, then press **Save** to create the new route.

As new routes are added, they are listed on this page. To configure a route, select the route from the list.

Data Route Configuration

Select a route from the data routes list to configure.

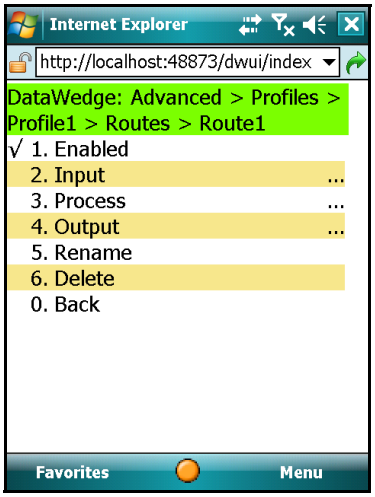


Figure 5-22 *Data Route Configuration Main Menu*

- Select *Enabled* to Enable/disable the use of data route. When enabled, a tick (✓) is displayed alongside Enabled. To disable, select Enable again to toggle the Enabled state.
- Select *Input* to move to a page where an input plug-in for the data route can be selected.
- Select *Process* to move to a page where the process plug-ins for the data route can be enabled and configured.
- Select *Output* to move to a page where an output plug-in for the data route can be selected.
- Select *Rename* to rename the data route.
- Select *Delete* to delete the data route.

Define an Input Plug-in for the Data Route

Select *Input* from the route configuration menu to set an input plug-in to the data route.

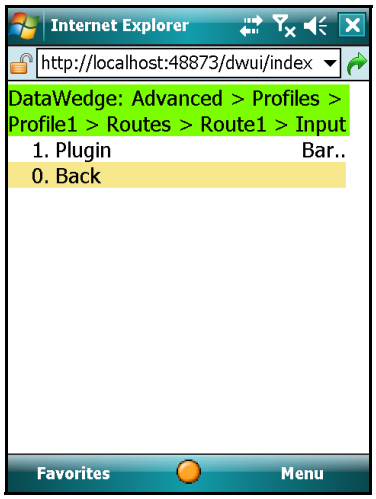


Figure 5-23 *Input Plug-in for Data Route*

This page displayed the current input plug-in associated with the selected data route. Select *Plugin* to move to a page listing the available input plug-ins.

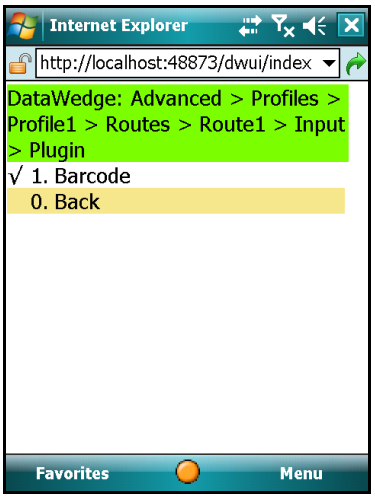


Figure 5-24 *Input Plug-ins List*

Select the desired input plug-in for the route from this page.

NOTE Input plug-in configuration is done at the profile level; no additional configuration is available at this level. See *Configuring Input Plug-ins* for details.

Define Output Plug-in for Data Route

Select the *Output* option from the route configuration menu to view the output plug-in associated with the selected data route.

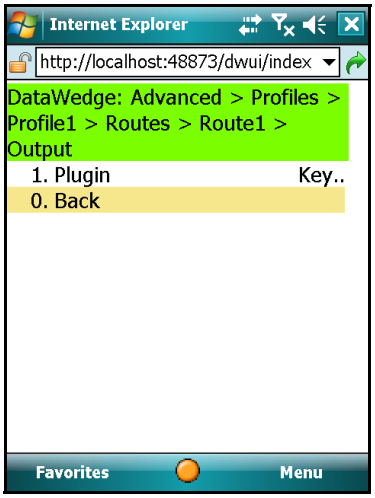


Figure 5-25 *Output Plug-in for Data Route*

Select *Plugin* to move to the list of available output plug-ins.

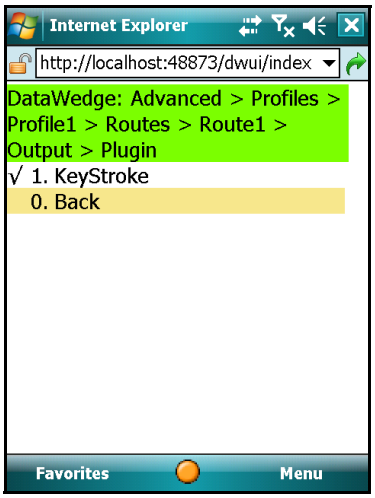


Figure 5-26 *Output Plug-ins List*

Select the desired output plug-in for the data route from the list.

NOTE The output plug-in configuration is done at the profile level. Therefore no additional configuration is available at this level. See *Configuring Output Plug-ins* for details.

Defining Process Plug-ins for Data Route

Select *Process* from the route configuration menu to move to the page where available process plug-ins are listed.

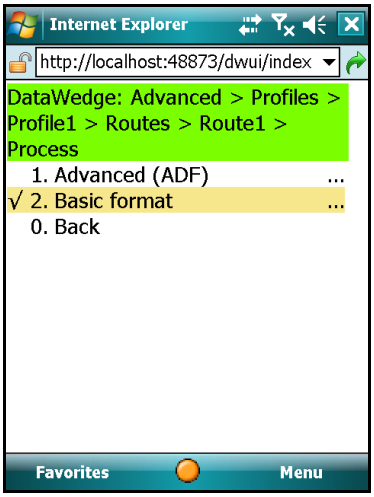


Figure 5-27 *Process Plug-ins Selection Page*

- Select *Advanced (ADF)* to enable and configure the Advanced Data Formatting (ADF) process plug-in for the data route.
- Select *Basic format* to enable and configure the Basic formatting process plug-in for the data route.

Chapter 6 Configuring Input Plug-ins

This chapter describes how to configure the input plug-in of a profile. DataWedge uses the input plug-in to access the selected input device (e.g. barcode scanner) and retrieve the data from it for processing.

Define Input Plug-in for Profile

Select *Input* from the profile menu to move to the Input plug-in selection page where all available input plug-ins are listed.

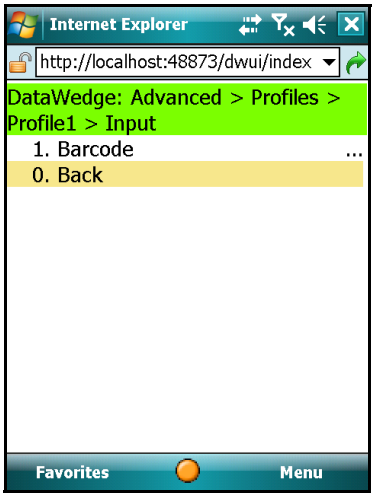


Figure 6-1 *Input Plug-in Selection Page*

Use the menu on this page for defining an input plug-in for the selected profile. DataWedge ships with one input plug-in which provides barcode scanning. As additional plug-ins are added, they appear in this list.

Select *Barcode* to start configuring the barcode input plug-in.

Barcode Scanner Plug-in

The Barcode Scanner plug-in reads the captured data from barcode scanners and queues the data for processing.

Configuring the Scanner Plug-in

When *Barcode* is selected, DataWedge configuration moves to the page where available scanners are listed.

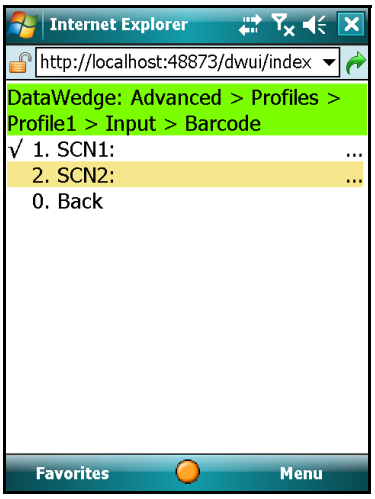


Figure 6-2 *Scanner Selection Page*

Select a scanner from this list and move to the plug-in configuration page where all configurable options for that scanner are listed.

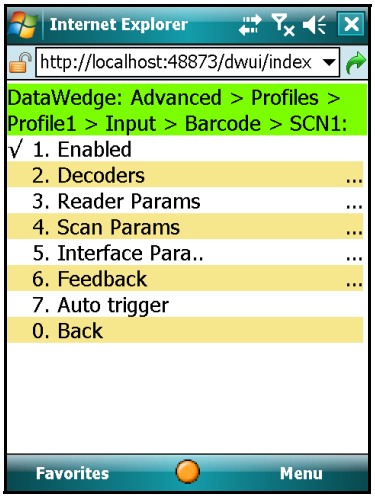


Figure 6-3 *Scanner Plug-in Configuration Page*

Following is a brief description of the menu items on the scanner plug-in configuration page.

- Select *Enabled* to enable/disable the scanner.
- Select *Decoders* to access the supported decoders for the scanner.
- Select *Reader Params* to access the reader parameters for the scanner. (See *Reader Parameters*)
- Select *Scan Params* to access the scanner parameters for the scanner. (See *Scanner Parameters*)
- Select *Interface Params* to access the interface parameters for the scanners. (See *Interface Parameters*)
- Select *Feedback* to configure the notification options for the scanner. (See *Input Plug-in Feedback Settings*)

- Select *Auto trigger* to enable/disable auto trigger mode for the scanner. When enabled, the scanner continuously reads barcodes. Use this feature for Motorola Micro Kiosks, such as the MK500. (See *Enable/Disable Auto Trigger Mode*)

NOTE Use of this feature on a battery powered mobile device is not recommended because it can cause the battery to discharge more rapidly.

Enabling/Disabling the Scanner

Select *Enable* to enable the scanner. When the scanner is enabled, a tick (✓) is displayed alongside the *Enabled* item. To disable, select Enable again to toggle the Enabled state.

Configuring Scanner Decoders

Before using the scanner to capture data ensure that the required symbologies are enabled. Select the *Decoders* option from the scanner configuration menu to move to the page listing all decoders supported by the scanner.

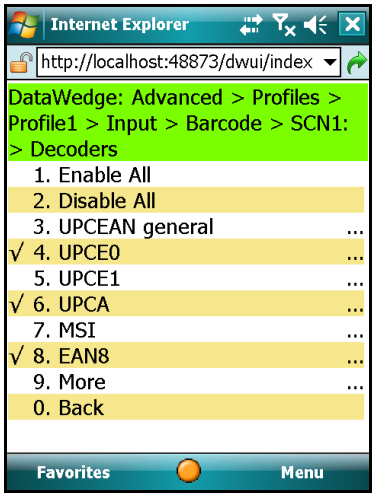


Figure 6-4 *Decoders List*

This menu page lists all the decoders supported by the scanner. Use the *More* option to navigate through the list to configure additional decoders.

- Select *Enable All* to enable all decoders for the selected barcode scanner.
- Select *Disable* All to disable all the decoders.

Configuring Decoders

Select the decoder name from the list, to navigate to the page containing the configurable parameters for that particular decoder.

Example - Configuring EAN8 Decoder

Select *EAN8* from the list to move to the EAN8 decoder configuration page.

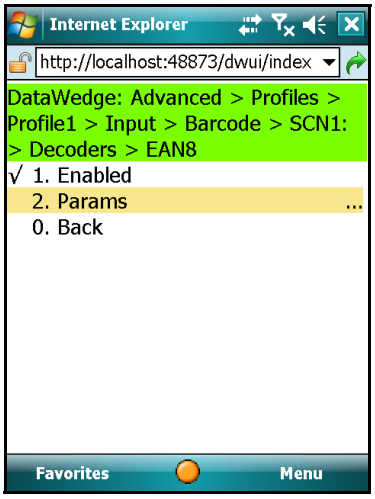


Figure 6-5 *EAN8 Decoder Page*

The *Enabled* option changes the enable/disable status of the EAN8 decoder. When enabled the scanner allows reading of EAN8 barcodes.

Select *Params* to configure additional parameters of the EAN8 decoder.

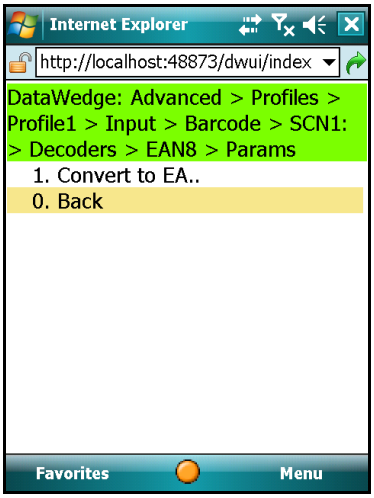

Internet Explorer
http://localhost:48873/dwui/index
DataWedge: Advanced > Profiles > Profile1 > Input > Barcode > SCN1: > Decoders > EAN8 > Params
1. Convert to EA..
0. Back
Favorites
Menu

Figure 6-6 *EAN8 Params Page*

Use the *Convert to EAN13* option to enable/disable conversion of EAN8 barcodes to EAN13 barcodes. A tick (✓) is displayed when this option is enabled.

Configuring Reader Parameters

Select *Reader Params* from the scanner configuration menu to configure reader specific parameters.

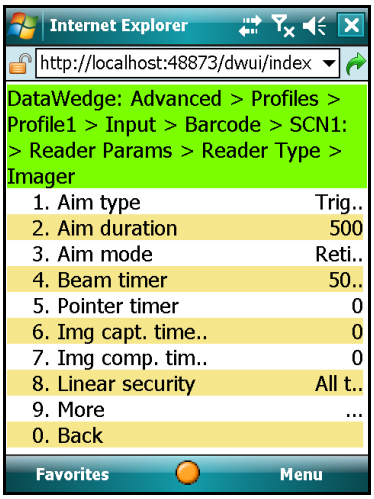

Internet Explorer
http://localhost:48873/dwui/index
DataWedge: Advanced > Profiles > Profile1 > Input > Barcode > SCN1: > Reader Params > Reader Type > Imager
1. Aim type Trig..
2. Aim duration 500
3. Aim mode Reti..
4. Beam timer 50..
5. Pointer timer 0
6. Img capt. time.. 0
7. Img comp. tim.. 0
8. Linear security All t..
9. More ...
0. Back
Favorites
Menu

Figure 6-7 *Reader Parameters Page*

Reader Parameters

The *Reader Parameters* settings differ depending on the barcode reader type. See *Laser Scanner Reader Parameters* and *Imager Reader Parameters* for details.

Laser Scanner Reader Parameters

Table 6-1 *Laser Scanner Reader Parameters*

Reader Parameters	Laser Values	Description
Reader Type	Laser	Laser type scan engine is used.
Aim type	Trigger mode:	On/off controlled by the trigger.
	Trigger Hold mode:	Trigger can be released but it remains active for the specified period of time.
	Timed Release mode:	Activation stops after a specified period of time, even if the trigger is held.
Aim duration	0 - 60,000 ms	Sets the amount of time (0 - 60,000 ms in increments of 100 ms).
Aim mode	Dot, Slab, Reticle, None	Describes the aiming modes to use Dot – Projects a dot used for aiming Slab – Projects a line used for aiming Reticle – Projects an aiming pattern used for framing a barcode. None – set to none to disable this
Narrow beam	Enable, Disable	Sets the scan beam width to normal or narrow. Enable – Enable narrow beam Disable – Disable narrow beam (enable normal beam)
Raster mode	Smart	Creates a single scan line which opens vertically for PDF417 symbols using the Smart Raster feature. This feature auto detects the type of bar code presented and adjusts its pattern accordingly. This provides optimal performance on 1D, PDF417, and EAN/UCC.
	Cyclone	A scan pattern which decodes 1D symbologies in any orientation.
	None	Raster mode disabled.
	Open Always	Opens the laser to a full sized raster pattern. Decodes 1D and PDF417. ***NOTE*** Raster Mode is not supported on all devices.
Beam timer	0 - 60,000 ms	Sets the maximum amount of time that the laser remains on (0 - 60,000 ms in increments of 100 ms). A value of 0 sets the laser to stay on.
Control scan LED	Enable, Disable	Not supported, do not modify default setting.
Scan LED logic level	Enable, Disable	Not supported, do not modify default setting.
Klasse Eins enable	Enable, Disable	Not supported, do not modify default setting.
Bidir. redundancy	Enable, Disable	Sets the read direction for the bar code redundancy. Bidirectional reads in both directions.

Table 6-1 *Laser Scanner Reader Parameters*

Reader Parameters	Laser Values	Description
Linear security level Linear Sec (Laser only)		Sets the number of times a bar code is re-read to confirm an accurate decode.
	All twice:	All twice: Two times read redundancy for all bar codes.
	All thrice:	All thrice: Three times read redundancy for all bar codes.
	Long and Short:	Long and Short: Two times read redundancy for long bar codes, three times for short bar codes.
	Redundancy + length:	Redundancy + length: Two times read redundancy based on redundancy flags and code length.
	Short or Codabar	Short or Codabar: Two times read redundancy if short bar code or CODABAR.
Pointer timer	0 - 60,000 ms	Sets the maximum amount of time that the pointer remains on (0 - 60,000 ms in increments of 100 ms). A value of 0 sets the pointer to stay on.
Raster height	0-100 in.	Sets the Raster Height from 0 to 100 inches in increments of 5 in. Raster Height is not supported on all devices.
DBP Mode		Describes what type of Digital Bar Pulse (DBP) is being produced by the scan engine.
	Normal	Normal – tells the engine to produce normal DBP.
	Composite	Composite – tells the engine to produce composite DBP, which is 2 different sets of DBP data multiplexed together for better decode performance. Note: If the device does not support I2C or if using an older engine the default value for DBP Mode is Normal. An attempt to change this mode to Composite results in an E_SCN_NOTSUPPORTED error.

Imager Reader Parameters

Table 6-2 *Imager Reader Parameters*

Reader Parameters	Imager Values	Description
Reader Type	Imager	Imager type engine is used.
Aim type	Trigger mode:	On/off controlled by the trigger.
	Timed hold mode:	Trigger can be released but it remains active for the specified period of time.
	Timed Release mode:	Activation stops after a specified period of time, even if the trigger is held.
	Presentation	Special mode enables scanning when motion is detected in front of the imager. (Currently only supported by MK500)
Aim duration	0 - 60,000 ms	Sets the amount of time (0 - 60,000 ms in increments of100 ms).
Aim mode	Dot, Slab, Reticle, None	Describes the aiming modes to use Dot – Projects a dot used for aiming Slab – Projects a line used for aiming Reticle – Projects an aiming pattern used for framing a barcode. None – set to none to disable this ***NOTE*** Both Dot and Slab options are invalid for imager, thus if selected the setting is overridden to reticle mode.
Beam timer	0 - 60,000 ms	Sets the maximum amount of time that the laser remains on (0 - 60,000 ms in increments of 100 ms). A value of 0 sets the laser to stay on.
Pointer timer	0 - 60,000 ms	Sets the maximum amount of time that the Pointer Timer remains on (0 - 60,000 ms in increments of 100 ms). A value of 0 sets the Pointer Timer to stay on. ***NOTE*** This parameter is not supported on all devices.
Img capt. timeout	0 - 60,000 ms	Sets the maximum amount of time for the Image Capture Timeout (0 - 60,000 ms in increments of 100 ms). A value of 0 sets the Image Capture Timeout to stay on. ***NOTE*** This parameter is not supported on all devices.
Img comp. timeout	0 - 60,000 ms	Sets the maximum amount of time for the Image Compress Timeout (0 - 60,000 ms in increments of 100 ms). ***NOTE*** Image Compress Timeout is not supported on all devices.

Table 6-2 *Imager Reader Parameters*

Reader Parameters	Imager Values	Description
Linear security		Sets the number of times a bar code is read to confirm an accurate decode.
	All twice:	All twice: Two times read redundancy for all bar codes.
	All thrice:	All thrice: Three times read redundancy for all bar codes.
	Long and Short:	Long and Short: Two times read redundancy for long bar codes, three times for short bar codes.
	Short or Codabar	Short or Codabar: Two times read redundancy if short bar code or CODABAR.
Focus mode	Fixed, Auto	Fixed mode is the only supported focus mode.
Focus position	Far, Near	Specifies the Fixed setting, focus position for Far is 9 inches and focus position for Near is 5 inches.
Poor quality mode	Enable, Disable	This parameter allows poor quality 1D bar codes to be read, BUT adversely affecting the overall decoding performance. Enable – Enables poor quality decoding for 1D barcodes. Disable – Disables poor quality decoding for 1D barcodes.
Picklist mode	Disabled, Enabled/HW reticule, Software reticule	This parameter allows the imager to decode only the bar code that is directly under the cross-hair/reticule (+) part of the AIM pattern. This feature is most useful in applications where multiple bar codes may appear in the field of view during a decode session and only one of them is targeted for decode. When enabled, bPicklistMode overrides dwAimMode if no aiming is chosen and use the AIM_MODE_RETICLE mode. When enabled, bPicklistMode may adversely affect overall decoding performance. Disabled – Disables picklist mode, so any bar code within the field of view can be decoded. Enable/HW reticule – Enables picklist mode, so only the bar code under the cross-hair can be decoded. Software reticule - Enables picklist mode, so only the bar code under the cross-hair can be decoded. In this mode the reticule is seen on the viewfinder as oppose to on the barcode surface. Especially used with Camera Scan.

Table 6-2 *Imager Reader Parameters*

Reader Parameters	Imager Values	Description
DPM Mode	Enable, Disable	This parameter allows Direct Part Marking (DPM) bar codes to be read but may adversely affect overall decoding performance. DPM is a way of stamping bar codes directly on physical objects. Support for this feature is available on DPM enabled mobile computers only. If this feature is not available and user attempts to enable it, an error (E_SCN_NOTSUPPORTED) results. Enable – Enables decoding of DPM bar codes. Disabled – Disables decoding of DPM bar codes. ***NOTE*** This feature cannot be turned on in conjunction with Picklist as both these modes are mutually exclusive. An attempt to turn on both results in an error (E_SCN_NOTSUPPORTED).
Illumination mode	Auto, Always off, Always On	Illumination modes to use. Possible values are: Auto Illumination – In this mode the auto-exposure algorithms decides whether illumination is required or not. Always on – In this mode external illumination is always on. Always off – In this mode external illumination is always off.
VF left pos.	0 – 600	This setting displays the top left X coordinate of the viewfinder window.
VF top pos.	0 – 800	This setting displays the top left Y coordinate of the viewfinder window.
VF right pos.	0 – 600	This setting displays the bottom right X coordinate of the viewfinder window.
VF bottom pos.	0 – 800	This setting displays the bottom right Y coordinate of the viewfinder window.
VF mode	Disabled, Enabled, Static reticule, Dynamic reticule	This setting displays the Viewfinder modes supported for scanning. Possible values are: Disable - Viewfinder is not displayed during aiming and scanning. Enabled - Only Viewfinder is enabled. Static Reticule - Displays the Viewfinder as well as draws a red reticule in the center of the screen which helps tracking the barcode. Dynamic Reticule - Displays the Viewfinder as well as draws a red reticule in the center of the image. If the barcode in the image is 'decodable' the reticule turns green to indicate this.

Table 6-2 *Imager Reader Parameters*

Reader Parameters	Imager Values	Description
VF feedback	Disabled, Enabled, Reticule	This parameter allows selection of the different feedback parameters on a successful decode. Possible values are: Disabled - This mode disables any visual feedback on a successful decode. Enabled - This mode displays the last image that successfully decoded. The duration for which the image is displayed can be set by the Viewfinder feedback time. Reticule - This mode displays the last image that successfully decoded and also draws a reticule in the center of the image.
VF feedback time	0 - 60,000 ms	This displays the Time for which the visual display selected by Viewfinder feedback mode. For more information Please refer *Motorola Enterprise Mobility Developer Kit for C Help*.
Inverse 1d Mode	Disabled, Enabled, Auto	This parameter allows the user to select decoding on inverse 1D barcodes. Disabled - Disables decoding of inverse 1D symbologies. Enabled - Enables decoding of only inverse 1D symbologies. Auto - Allows decoding of both positive as well as inverse 1D symbologies.

Configuring Scan Parameters

Select *Scan Params* to configure the scan parameters.

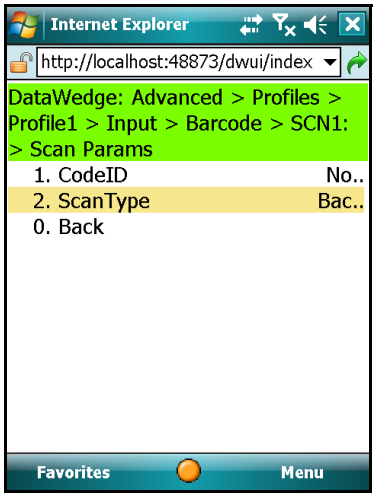


Figure 6-8 *Scanner Parameter Configuration Page*

Use this menu to access and configure the scan parameters.

- Select *CodeID* to specify the CodeID.

- Select *Scan Type* to specify the type of Code ID to be reported.

See *Scan Parameters* for more details.

Scanner Parameters

Below table lists all the scan parameters.

Table 6-3 *Scan Parameters*

Scan Parameters	Values	Description
Code ID Type	None	Default setting. No prefix
	Symbol	A Symbol defined single character prefix.
	AIM	A standard based three character prefix.
Scan Type	Foreground	Foreground reads combine only with other foreground reads and preempt background reads.
	Background	The scan takes place in the background, but only if no foreground reads are pending.
	Monitor	No scanning is requested, but if scanning is initiated by another application, a monitor read receives a copy (if the code type is appropriate).

NOTE By default, the Scan Type is set to 'Background'. This allows DataWedge to share the scanner with other scan enabled applications. Setting this parameter to 'Foreground' is not recommended as this may interfere with other scan enabled applications or vice versa.

Configuring Interface Parameters

Select *Interface Params* from the scanner configuration menu to set the interface parameters.

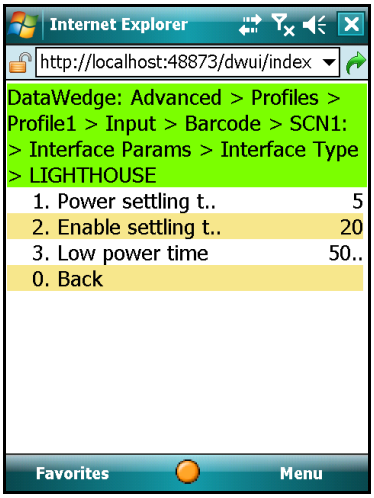

Internet Explorer
http://localhost:48873/dwui/index
DataWedge: Advanced > Profiles > Profile1 > Input > Barcode > SCN1: > Interface Params > Interface Type > LIGHTHOUSE
1. Power settling t.. 5
2. Enable settling t.. 20
3. Low power time 50..
0. Back
Favorites
Menu

Figure 6-9 *Interface Parameter Page*

Select a parameter from the list to modify the default value assigned to it.

See *Interface Parameters* for more details.

Interface Parameters

Table 6-4 *Interface Parameters*

Interface Parameter	Values
Interface Type	Lighthouse, Camscan
Power Settle Time	0 - 100 ms
Enable Settle Time	0 - 100 ms
Low Power Time	0 - 60,000 ms

Input Plug-in Feedback Settings

Select the *Feedback* option from the scanner configuration menu to navigate to the feedback settings page where the feedback parameters can be configured.

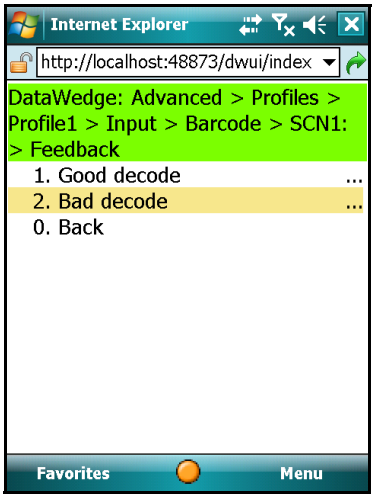


Figure 6-10 *Feedback Selection Page*

Use DataWedge configuration pages to configure the feedback settings for the selected input plug-in.

The scanner plug-in has two events which feedback settings need to be configured.

- Select *Good Decode* to configure feedback settings for a successful decode.
- Select *Bad Decode* to configure feedback settings for a unsuccessful decode.

Select either Good or Bad decode from the list to move to the corresponding page where the feedback options are listed.

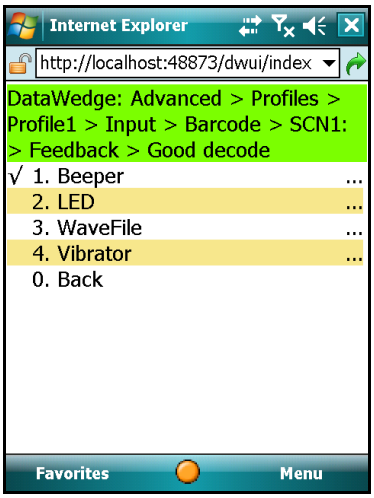


Figure 6-11 *Feedback Module Selection Page*

Select a feedback option from the list to configure it. DataWedge uses the beeper, LED or Wav feedback module for providing user alerts.

- Select the *Beeper* option to access and configure Beeper feedback.
- Select the *LED* option to access and configure LED feedback.
- Select the *WaveFile* option to access and configure Wave File feedback.

Configuring Beeper Feedback Settings

Select *Beeper* to configure beeper feedback settings.

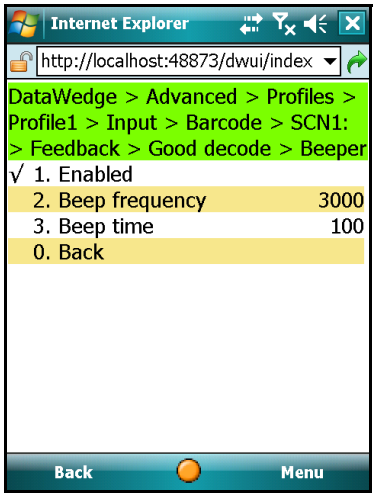

Internet Explorer
http://localhost:48873/dwui/index
DataWedge > Advanced > Profiles > Profile1 > Input > Barcode > SCN1: > Feedback > Good decode > Beeper
√ 1. Enabled
2. Beep frequency 3000
3. Beep time 100
0. Back
Back
Menu

Figure 6-12 *Beeper Configuration Page*

- Select *Enabled* option to enable or disable the beeper feedback. When enabled, a tick (✓) is displayed alongside the *Enabled* item. To disable, select Enable again to toggle the Enabled state.
- Select *Beep frequency* option to set the Beep frequency. A form appears allowing the beep frequency to be changed. Enter the desired value and press **Save** to save.

- Select *Beep time* option to set the beep duration. A form appears allowing the beep duration to be changed. Enter the desired time (in milliseconds) and press **Save** to save.

Configuring LED Feedback Settings

Select LED to configure the LED feedback settings.

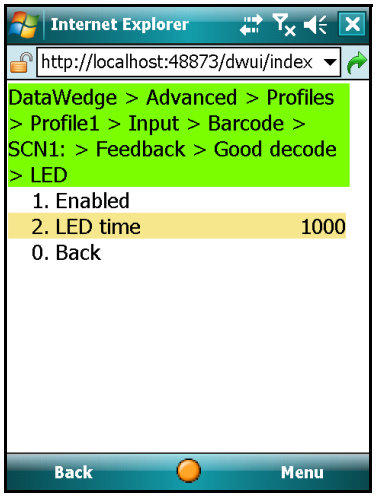

Internet Explorer
http://localhost:48873/dwui/index
DataWedge > Advanced > Profiles > Profile1 > Input > Barcode > SCN1: > Feedback > Good decode > LED
1. Enabled
2. LED time 1000
0. Back
Back
Menu

Figure 6-13 *LED Configuration Page*

- Select *Enabled* option to enable or disable the LED feedback.
- Select *LED time* option to set the LED time. Enter the time duration (in milliseconds) in the form that appears and press **Save** to save.

Configuring WAV Feedback Settings

Select WaveFile to configure WAV feedback setting.

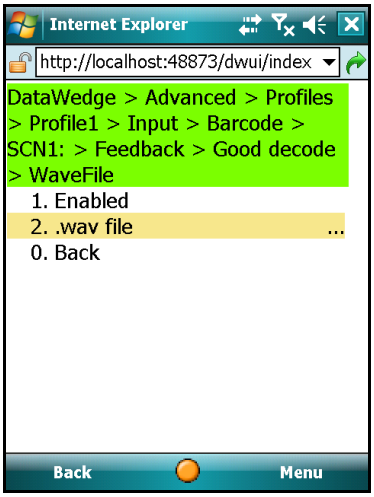

Internet Explorer
http://localhost:48873/dwui/index
DataWedge > Advanced > Profiles > Profile1 > Input > Barcode > SCN1: > Feedback > Good decode > WaveFile
1. Enabled
2. .wav file ...
0. Back
Back
Menu

Figure 6-14 *Wave File Configuration Page*

Select *Enabled* option to enable or disable the WaveFile feedback.

Select *.wav file* option to specify the WAV file to be used. Enter the path\filename of the .wav file in the form that appears and press **Save** to save.

Enable/Disable Auto Trigger Mode

From the barcode plug-in configuration main menu, select *Auto trigger* to enable auto trigger mode for the scanner. When this feature is enabled, the scanner is activated when movement is detected beneath it and automatically scans barcodes. Use this feature for Motorola Micro Kiosks, such as the MK500.

✓ ***NOTE*** Use of this feature on a battery powered mobile device is not recommended because it can cause the battery to discharge more rapidly

By default this feature is disabled on DataWedge. When enabled a tick (✓) is displayed alongside Auto trigger menu item. To disable, select the menu item again to toggle the state.

✓ ***NOTE*** Use of this feature with the camera is not recommended because the Viewfinder is given precedence over the other foreground applications and therefore, DataWedge configuration interface can be obscured. Use the DataWedge Remote Configuration to change DataWedge settings whilst in this mode.

Chapter 7 Configuring Output Plug-ins

This chapter describes how to configure the output plug-in of a profile. DataWedge uses the output plug-in to send captured data to the foreground application.

Screen-by-screen details on output plug-in configuration and the parameters associated with the output plug-in are described.

Output Plug-in Selection

Select *Output* from the profile menu to move to the output plug-in list page.

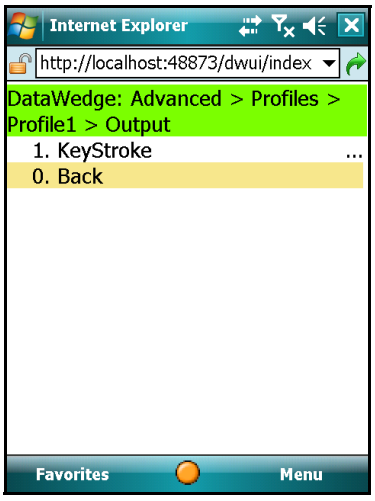


Figure 7-15 *Output Plug-in Main Page*

Use the menu on this page for selecting an output plug-in. DataWedge ships with one output plug-in which provides output in the form of keystrokes. As additional plug-ins are added, the plug-in names are displayed in this list.

Keystroke Plug-in Configuration

Select *Keystroke* to move to Keystroke configuration main menu page.

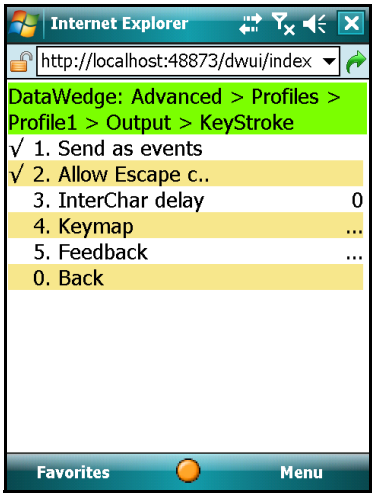


Figure 7-16 *Keystroke Plug-in Configuration Page*

- Select *Send as events* to enable sending keystrokes as keyboard events. When enabled, a tick (✓) is displayed alongside Send as events menu item. To disable this feature, select the menu item again to toggle the state. When disabled, Keystrokes are sent to the foreground application as messages.
- Select *Allow Escape chars* to enable DataWedge to recognise escape sequences in the incoming data and convert them to keystrokes. A tick (✓) is displayed alongside the menu item when this feature is enabled. To disable this feature, select the menu item again. When disabled, escape sequences are sent as data.
- Select *InterChar delay* option to specify the delay to be inserted between each keystroke that is sent.
- Select *Keymap* to specify the keymap settings.
- Select *Feedback* to specify the feedback settings for events handled by the output plug-in.

This page is the entry point to the keystroke output plug-in configuration. When moving back to the previous page a dialog box is displayed, prompting confirmation to save any changes made to the keystroke output plug-in. Press **OK** to save changes. Press **Cancel** to revoke any changes.

Allow Escape Characters

The *Allow Escape chars* option configures the Keystroke plug-in to recognize escape sequences in the incoming data buffer. When this option is enabled DataWedge can process the escape characters in an incoming data stream and also send escape characters to the foreground application via the Keystroke plug-in. Disabling this option causes DataWedge to leave escape characters unchanged. For example if a barcode contains characters "\r" and if Allow Escape chars is enabled, then DataWedge replaces the "\r" with a carriage return character. However, if Allow Escape chars property is disabled DataWedge treats the "\r" as regular characters, leaving them unchanged. The above scenario is also true for data modifications done via Basic format process plug-in.

Table 7-5 *Escape Sequences Supported by DataWedge*

Escape Sequence	Description
\b	Backspace
\f	Form feed
\n	New line
\r	Carriage return
\S	Sticky key
\t	Horizontal tab
\u hhhh	Unicode character in hexadecimal notation.
\v hh	Virtual key represented in hexadecimal notation
\x hh	ASCII character in hexadecimal notation

Inter Character Delay

The inter character delay is the delay (in milliseconds) that is inserted between the keystrokes that are sent.

Select the *InterChar delay* option to move to a dialog where the inter character delay can be specified.

Use the mobile device keypad or the onscreen keyboard to enter the inter character delay and press **Save** to save.

Configuring Keymap Settings

The keymap configuration is used to translate characters from the incoming data to alternative characters before sending to the foreground application.

Select *Keymap* to move to keymap configurations page.

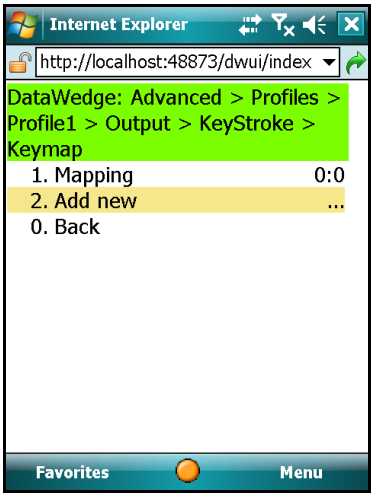


Figure 7-17 *Keymap Configuration Page*

Adding a Keymap

Select *Add new* to add a new key-mapping. A new option titled *Mapping* is added to the keymap configuration page.

Select the *Mapping* option to configure the new keymap.

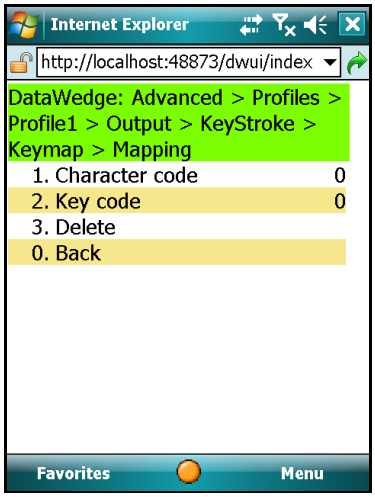


Figure 7-18 *Key Mapping Main Page*

- Select *Character code* to specify the ASCII value of the incoming character.
- Select *Key code* to specify the virtual key value of the alternate character.
- Select *Delete* to delete the selected key mapping.

Modifier Keys

Modifier keys are special keys that modify the normal action of another key, when two are pressed in combination. For example, <Alt> + <F4> in Microsoft Windows is used to close the program in a active window. By themselves, modifier keys usually does nothing. The most widely used modifier keys are Ctrl, Shift and Alt keys.

Table 7-6 *Modifier Key Values*

Modifier Key	Key Value (Decimal)	Key Value (Hexadecimal)
Shift	256	100
Ctrl	512	200
Alt	1024	400

Key Mapping Examples

The examples below explains the procedure of setting keymaps.

Example1

The following example describes how to configure the Keystroke plug-in to simulate SHIFT+8 for left round bracket "(" instead of SHIFT+9 which is the default (101 keyboard) mapping. This is a typical scenario encountered when using an application via Remote Desktop which uses a 106 keyboard (Japanese Keyboard) and scans a barcode containing an open round bracket.

1. Use the *Character code* option to specify the incoming character code that needs to be altered by the Keystroke plug-in.

   In the text box enter the character code for open round bracket as decimal 40 (40 is the decimal representation of "(" according to the ASCII table) and press the **Save** button.

2. Use the *Key code* option to enter the outgoing key code combination and press **Save**.

   Since the outgoing key code is a combination of two keys (SHIFT+8) it is represented as a the sum of "SHIFT" and "8"

   The virtual key value in decimal format for Shift key is 256 (See *Modifier Key Values*). The virtual key value of character "8" is 56 (See *Virtual Key Codes*). Therefore the Key code is;

   Shift + 8 = 256 + 56 =321

See *Virtual Key Codes* for key value information. See to the *ASCII Table* for character code values.

Output Plug-in Feedback Settings

Select *Feedback* from the Keystroke plug-in configuration page to move to *Feedback* menu page. Use the output plug-in feedback configuration page to set feedback properties for the Keystroke plug-in.

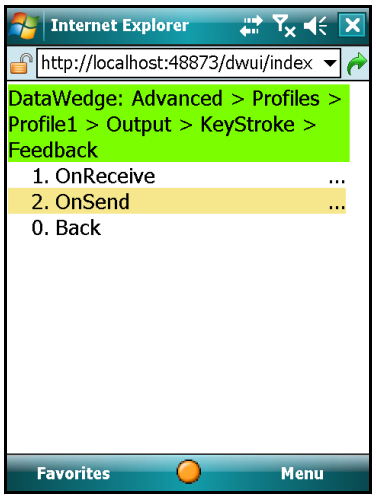


Figure 7-19 *Feedback Main Menu Page*

- Select *OnReceive* to configure feedback settings for data receive events which are triggered when the Keystroke plug-in receives data.
- Select *OnSend* to configure the feedback settings when the Keystroke plug-in sends data.

Configuring Output Plug-in Feedback Settings

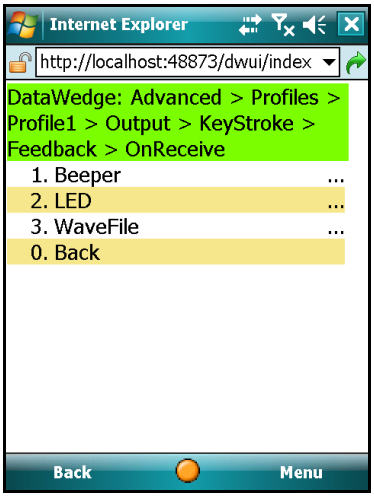


Figure 7-20 *Keystroke Feedback Options*

The feedback configuration options for the output plug-in are the same as those for the input plug-in. See *Input Plug-in Feedback Settings* for additional details.

Chapter 8 Configuring Process Plug-ins

This chapter describes how to configure the process plug-ins associated with a profile.

See *Defining Process Plug-ins for Data Route* for information on how to add a process plug-in to the route of a profile.

Configuring ADF Plug-in

Select *Advanced (ADF)* from the list of process plug-ins to move to the main configuration menu for the Advanced Data Formatting plug-in.

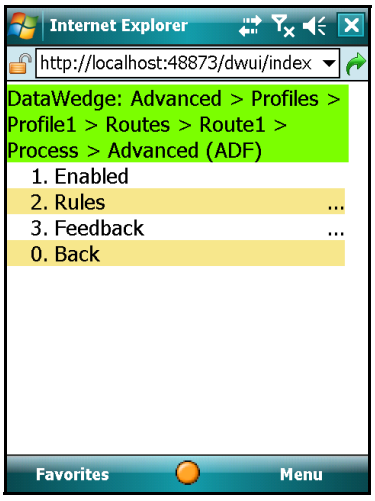


Figure 8-1 *Advanced (ADF) Plug-in Page*

- Select *Enabled* to enable or disable the ADF process plug-in.
- Select *Rules* to add rules to the AFDF process plug-in.
- Select *Feedback* to configure the feedback settings for the ADF plug-in.

Enabling the ADF Process Plug-in

From the ADF configuration main menu, select Enabled to enable the ADF process plug-in. When enabled, a tick (✓) is displayed alongside Enabled. Perform the same action again to disable the ADF process plug-in i.e. selecting Enabled while the plug-in status is set as enabled toggles the enabled status.

Specifying Rules to ADF Plug-in

Select *Rules* from the ADF configuration menu to move to the list of defined ADF rules.

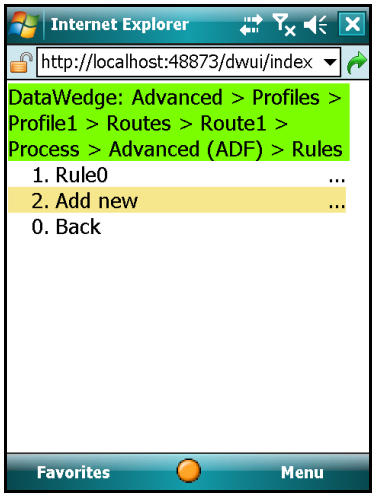


Figure 8-2 *ADF Rules List*

- Select *Rule0* to access the configuration page of the default ADF rule.
- Select *Add new* to add a new rule to the list. Enter the name for the new rule (For example, Rule1) and press **Save** to save.

Configuring ADF Rules

To configure ADF rules, select an option from the ADF rule menu.

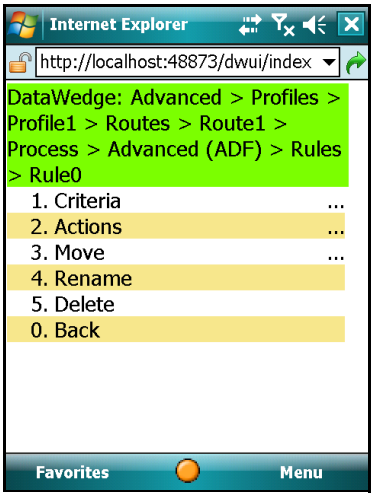


Figure 8-3 *ADF Rule Configuration Page*

- Select *Criteria* to define the criteria for the rule.
- Select *Actions* to specify the actions to be performed when the criteria for the rule have been met.
- Select *Move* to move the current ADF rule up or down the list of defined rules. The rules are processed in top-down order. Therefore, rules that are on top of the list are processed first.
- Select *Rename* to rename a rule. A form is displayed allowing the name of the rule to be changed. After entering a new name, press **Save** to rename the rule.
- Select *Delete* to remove the current ADF rule from the list.

Defining Criteria

Select *Criteria* from the ADF rule configuration menu to move to the page where criteria for the selected rule can be specified.

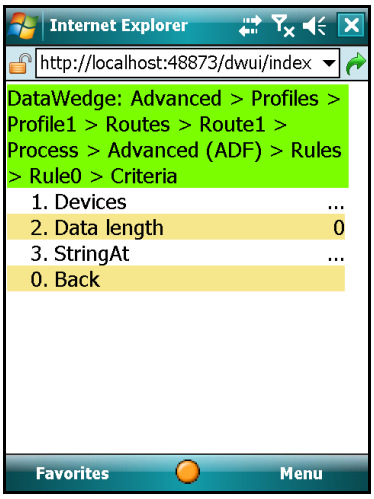

Internet Explorer
http://localhost:48873/dwui/index
DataWedge: Advanced > Profiles > Profile1 > Routes > Route1 > Process > Advanced (ADF) > Rules > Rule0 > Criteria
1. Devices ...
2. Data length 0
3. StringAt ...
0. Back
Favorites
Menu

Figure 8-4 *ADF Rules Criteria Page*

- Select *Devices* to associate an input device to the ADF rule. The rule is only applied to data coming from the specified input device.
- Select *Data length* to specify a length for the received data. The ADF rule is only applied to data with that specified length.
- Select the *StringAt* option to specify a string that must be present in the data and its position within the data. The ADF rule is only applied if this condition is met.

Input Device Criteria

From the ADF rule criteria definition page select the *Devices* option to specify the device for the ADF rule.

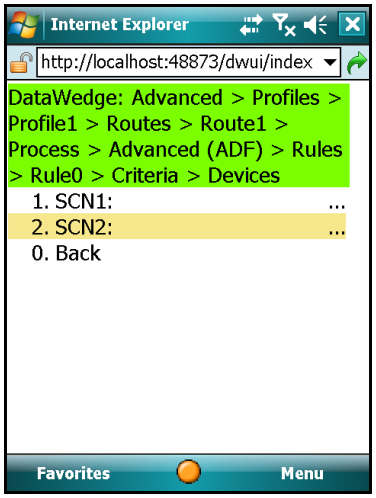

Internet Explorer
http://localhost:48873/dwui/index
DataWedge: Advanced > Profiles > Profile1 > Routes > Route1 > Process > Advanced (ADF) > Rules > Rule0 > Criteria > Devices
1. SCN1: ...
2. SCN2: ...
0. Back
Favorites
Menu

Figure 8-5 *Device List for ADF Rules*

Select the input device from the list. DataWedge filters the data from the specified input device and applies the rules defined in the ADF process plug-in.

Use the Decoders menu item to select the decoders for the current input device.

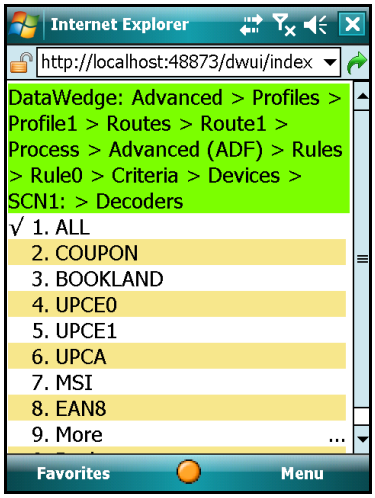


Figure 8-6 *Decoder List*

By default all decoders are enabled for the input device. This allows all the decoders that are configured for the input plug-in to be used by the rule.

To enable specific decoders, disable the "*ALL*" option and select the desired decoders.

DataWedge only uses the decoders that are enabled in the input plug-in i.e. even if all decoders are selected from the criteria definition pages, DataWedge cannot use them unless the decoders were enabled while configuring the barcode scanner input plug-in (See *Configuring Scanner Decoders*).

Data Length Criteria

Select *Data length* from the ADF rule criteria definition page to specify the length of the incoming data. DataWedge configuration displays a dialog where the length of the data can be specified. DataWedge only applies the rule when the incoming data matches the length specified.

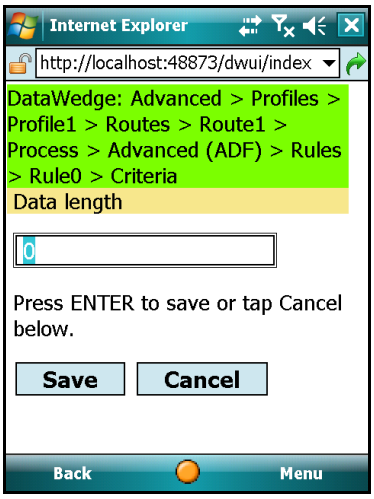


Figure 8-7 *Data Length Definition Page*

After entering the value, press **Save**.

Data Content Criteria

From the ADF rule criteria definition page select StringAt to move to the StringAt configuration page.

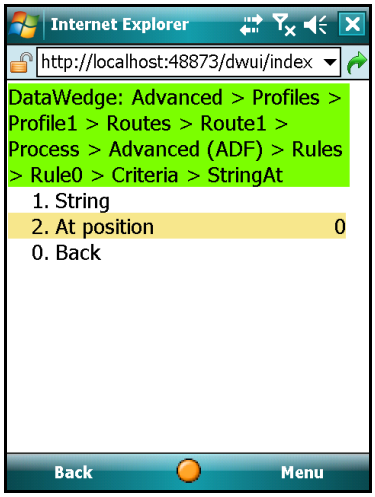

Internet Explorer
http://localhost:48873/dwui/index
DataWedge: Advanced > Profiles > Profile1 > Routes > Route1 > Process > Advanced (ADF) > Rules > Rule0 > Criteria > StringAt
1. String
2. At position 0
0. Back
Back
Menu

Figure 8-8 *StringAt Definition Page*

Use this page to define a data content criterion for the ADF rule plug-in.

- Select *String* to define a string that must be contained within the data. Use the form displayed to specify the string and press **Save**.
- Select *At position* to specify the position of the above defined string within incoming data. Use the form to enter the position (i.e. 1st, 2nd or nth occurrence) of the string in the data packet and press **Save**.

Defining Actions

Select *Actions* from the ADF rule configuration menu to move to the page where actions can be added for data manipulation. DataWedge uses the actions to process the data.

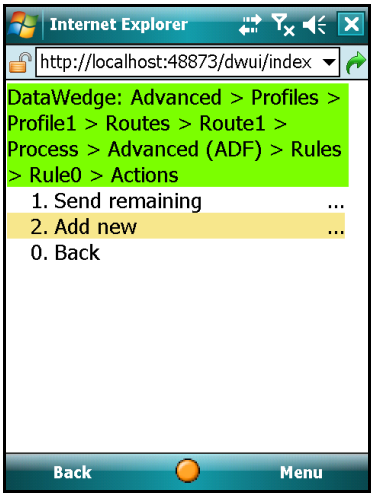

Internet Explorer
http://localhost:48873/dwui/index
DataWedge: Advanced > Profiles > Profile1 > Routes > Route1 > Process > Advanced (ADF) > Rules > Rule0 > Actions
1. Send remaining ...
2. Add new ...
0. Back
Back
Menu

Figure 8-9 *Actions Page*

- By default, the *Send remaining* action is added to the ADF rule to enable sending of data which is processed via the ADF plug-in. This action can be deleted if required.
- Add a new action by selecting *Add new* option.

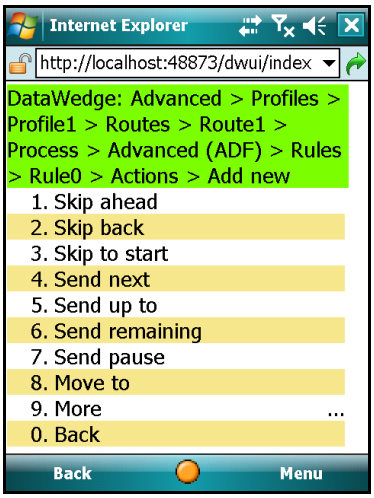

Internet Explorer
http://localhost:48873/dwui/index
DataWedge: Advanced > Profiles > Profile1 > Routes > Route1 > Process > Advanced (ADF) > Rules > Rule0 > Actions > Add new
1. Skip ahead
2. Skip back
3. Skip to start
4. Send next
5. Send up to
6. Send remaining
7. Send pause
8. Move to
9. More ...
0. Back
Back
Menu

Figure 8-10 *ADF Actions List Page*

Using this menu one or more data processing actions can be defined. Select an action from the list to add that action to the ADF rule. When an action is selected from the actions list, it is automatically added to the list of defined actions. To configure an action, select the corresponding action from the actions list. See *ADF Supported Actions* for configurable options.

ADF Supported Actions

Table 8-1 *ADF Supported Actions*

Type	Symbol ADF	Description
Cursor Movement	Skip ahead	Move cursor forward by a specified number of characters
	Skip back	Move cursor back by a specified number of characters
	Skip to start	Move cursor to the beginning of the data
	Move to	Move cursor forward until the specified string is found
	Move past a	Move cursor forward past the specified string
Data Modification	Crunch spaces	Trim spaces between words to one and remove all spaces at the beginning and end of the data
	Stop space crunch	Stops space crunching. This disables the last Crunch spaces action.
	Remove all spaces	Remove all spaces in the data
	Stop space removal	Stop removing spaces. This disables the last Remove All Spaces action
	Remove leading zeros	Trim all zeros at the beginning of data
	Stop zero removal	Stop removing zeros at the beginning of data. This disables the previous Remove Leading Zeros action
	Pad with zeros	Left Pad data with zeros to meet the specified length
	Stop pad zeros	Stop padding with zeros. This disables the previous Pad With Zeros action
	Pad with spaces	Left Pad data with spaces to meet the specified length
	Stop pad spaces	Stop padding with spaces. This disables the previous Pad With Spaces action
	Replace string	Replace a specified string with a new string
	Stop replace string	Stop replacing a string with a specified string. This disables the previous Replace String action
Data Sending	Send next	Send the specified number of characters from the current cursor position
	Send remaining	Send all data that remains from the current cursor position
	Send up to	Send all data up to a specified string
	Send pause	Pause the specified number of milliseconds before continuing the next send action
	Send string	Send a specified string
	Send char	Send a specified ASCII/ Unicode character

ADF Examples

Example 1 - Auto Parts Distribution (Processing two types of barcodes)

An auto parts distribution center encodes the manufacturer ID, part number, and destination code into their Code 128 bar codes. The distribution center also has products that carry UPCA bar codes, placed there by the manufacturer.

The Code 128 bar codes have the following format:

MMMMMPPPPPDD

Where: M = Manufacturer ID

P = Part Number

D = Destination Code

The first five characters of the UPCA barcode is the Manufacturer code, with the remainder being the part number.

The distribution center uses a mobile computer application which has three fields for Manufacturer ID, Part Number and destination code in the main window. The application fills relevant fields using starting control character. Starting Control characters are;

<CTRL M>, Manufacturer id

<CTRL P>, part number

<CTRL D>, destination code

The application needs two rules to process Code 128 and UPCA barcodes.

Rule 1

Create a rule titled "*CODE128Rule*"

Configure the rule by going to *CODE128Rule* > *Criteria* > *Devices* > *SCN1* > *Decoders* and selecting *Code 128.*

Then, go to *CODE128Rule* > *Actions* and add the following new actions;

1. SendChar <Ctrl+M>
2. Send Next 5
3. SendChar <Ctrl+P>
4. Send Next 5
5. SendChar <Ctrl+D>
6. Send Remaining

Rule 2

Create a rule titled "*UPCARule*"

Configure the rule by going to *UPCARule* > *Criteria* > *Devices* > *SCN1* > *Decoders* and selecting *UPCA*.

The go to *UPCARule* > *Actions* and define the actions for the rule as follows;

1. SendChar <Ctrl+M>

2. Send Next 5
3. SendChar <Ctrl+P>
4. Send Remaining

Example 2 - UCC/EAN-128 Serialized Shipping Container Symbol

An Airline serves two main freight services and a few others. They need to sort the cargo of their two main clients separately from the others.

To sort the cargo, they use EAN-120 shipping container barcodes which conform to the following format.

####<6 Digit Company Code><9 digit reference number>

Company Codes for two companies are;

Company 1 - 801111, and

Company 2 - 801322

Their application needs the company name, or the string "Other", followed by the ref number excluding any leading zeros. The company name and ref number should be separated with a TAB character.

Rule 1

Create a rule titled "*Company 1*"

Configure the rule by going to *Company 1* > *Criteria* > *String At* and configure the settings for that rule.

String: 801111

At position: 4

Then go to *Company 1* > *Actions* and add the following new actions;

1. Send String: Company 1\t
2. Skip Ahead 10
3. Remove Leading Zeros
4. Send Next 9

Rule 2

Create another rule titled "*Company 2*"

Configure that rule by going to *Company 2* > *Criteria* > *String At* and define the settings as follows.

String: 801322

At position: 4

Then define the actions for the rule by going to Company 2 > Actions and setting the following.

1. Send String: Company 2\t
2. Skip Ahead 10
3. Remove Leading Zeros
4. Send Next 9

Rule 3

Create another rule for the remaining clients titled "*Other*".

The criteria settings need not be set. DataWedge only needs to differentiate the two main companies from the rest of the companies and the preceding rules have already defined those criteria.

Set the action for this rule by going to *Other* > *Actions* and set the parameters as follows;

1. Send String: Other \t
2. Skip Ahead 10
3. Remove Leading Zeros
4. Send Next 9

Configuring Basic Format Process Plug-in

Select *Basic format* from the process plug-in selection menu (See *Defining Process Plug-ins for Data Route*) to configure the basic format process plug-in. When selected, DataWedge configuration moves to the basic format plug-in main menu page.

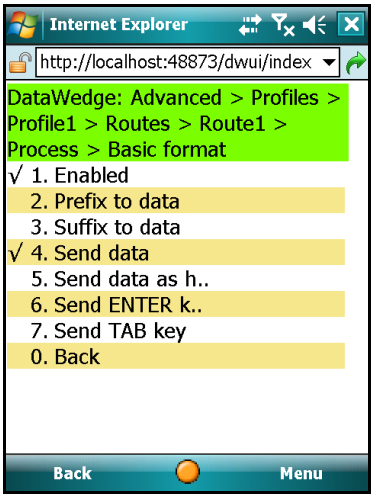


Figure 8-11 *Basic Format Process Plug-in Configuration Menu*

- Select *Enabled* option to enable or disable the Basic format process plug-in. When enabled, a tick (✓) is displayed alongside Enabled menu item. To disable, select the menu item again to toggle the state.
- Select *Prefix to data* to add a string to the beginning of the data.
- Select *Suffix to data* to add a string to the end of the data.
- Select *Send data* to transfer the captured data to the foreground application. Disabling this option prevents the actual data from been transmitted. The prefix and suffix strings, if present, are still transmitted even if this option is disabled.
- Select *Send data as hex* to send the data in hexadecimal format.
- Select *Send ENTER key* to append an enter character to the processed data.
- Select *Send TAB key* to append a tab character to the processed data.

Special Characters Supported by Basic format

The Basic format process plug-in supports the following special characters.

- Standard Escape Characters (See- *Escape Sequences Supported by DataWedge*)
- Virtual Keys (See - *Virtual Key Codes*)
- Hex representation of ASCII characters (See - *ASCII Table*)
- Unicode Characters
- Sticky Keys (See *Sticky Key Definitions*)

Sticky Keys

The format for sticky keys is defined as follows;

\S(C|A|S)x[0..*]\E(C|A|S)

The definitions of the sticky keys are described below..

Table 8-2 *Sticky Key Definitions*

Key Code	Description
\S, \s	Start sticky key
(C|c)	C = CTRL
(A|a)	A = ALT
(S|s)	S = SHIFT
x[0..*]	0 or more character keys
\E, \e	End Sticky key.

When using sticky keys, use lower case characters to define key combinations. The key combination meanings may change the result depending on the characters used. For example, to depict CTRL+a, use \Sca or \SCa. If \SCA is used DataWedge emulates the key combination as CTRL+SHIFT+A which does not yield the required result.

NOTE In order to allow the escape characters to be supported, enable the "*Allow Escape chars*" option in the Keystroke output plug-in.

Basic Format Examples

Example1 - Displaying output data Line-by-line

The example below describes how to configure the Basic format process plug-in to alter the output data to be displayed line-by-line as shown.

Start

1234567890

End

For the Prefix, the word "Start" is followed by \r which inserts a carriage return before the data.

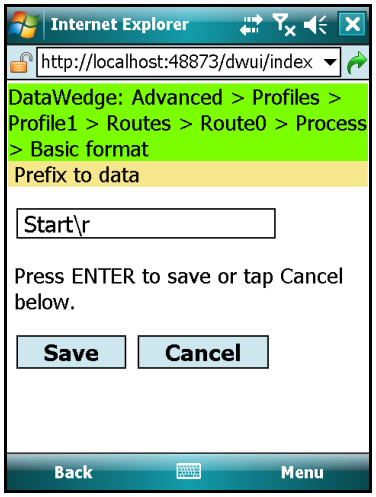


Figure 8-12 *Prefix Setting*

For the Suffix a \r is set before the word "End" which means the data is followed by a carriage return and then the word "End".

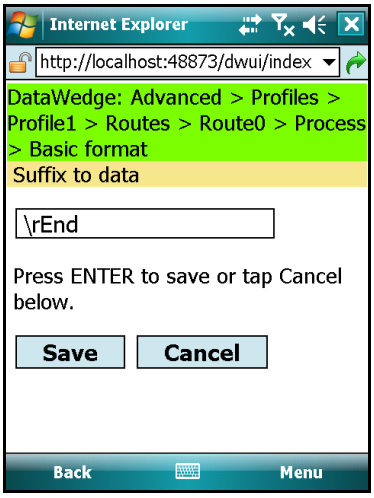


Figure 8-13 *Suffix Setting*

Example2 - Sending a linefeed after Data

A linefeed can be generated by typing CTRL+j on a keyboard. To emulate this in DataWedge, enter the Suffix string as \Scj\Ec.

Example3 - Fill a text field & press the OK button in a form

Where a form consists of a text input box and a submit button, DataWedge can be set to populate the text input box, then set focus to and press the button. This achieved by setting the Suffix as \Scim\Ec to simulate Tab and Enter.

Example4 - Make all characters uppercase

If the input data consists purely alpha characters (i.e. a-z), these can be converted to upper case simply by holding down the SHIFT keys while sending the characters. To achieve this effect in DataWedge, set the Prefix as \Ss and Suffix as \Es. This converts all lower case alpha characters in the data to uppercase.

Example5 - Open an MS Word document on a remote computer and print the data

Connect to a remote PC via Remote Desktop and launch MS Word. Set the prefix as \Safn\Es. This opens a new MS Word document and enter the data into the document.

To enter the data and automatically print that data afterwards, set the suffix as \Safp\Ea\Scm\Ec. After entering the data this invokes the MS Word File menu, selects Print and presses the enter key causing the document to be printed.

Chapter 9 DataWedge Remote Configuration

This chapter provides information on how to configure DataWedge remotely using ActiveSync, Windows Mobile Device Center (WMDC) or over a LAN/WAN network.

DataWedge can be remotely configured using the Remote Configuration option available in the DataWedge programs group. DataWedge Remote Configuration uses Internet Explorer on the PC to render the DataWedge User Interface instead of the Mobile Internet Explorer on the device, thus providing the same configuration interface locally and remotely.

Setting Mobile Device for Remote Configuration

DataWedge Remote Configuration can be done in several ways.

Configuring through ActiveSync/WMDC

This option can be used for Windows Mobile based devices.

Place the mobile device in the cradle. Ensure that the mobile device and PC are connected via ActiveSync (or WMDC in the case of Vista).

Go to *Start Menu* > *Programs* > *Motorola DataWedge* > *Remote Configuration* to open the Remote Configuration start page in Internet Explorer which provides preliminary instructions for setting up the connection. Remote Configuration makes use of pop-ups, cookies and scripts, so these must be enabled/permitted prior to starting remote configuration. Optional proxy configuration details are provided.

With Internet Explorer correctly configured and the Mobile device connected to the PC via ActiveSync (or WMDC) click either the default **Basic** or **Advanced** buttons to invoke the corresponding Basic Configuration or Advanced Configuration. The default ActiveSync IP address (169.254.2.1) is used with this option. Based on the selection a pop up window appears with the corresponding DataWedge configuration. Use this configuration window to configure DataWedge in the same way as on the Mobile Device.

Configuring over WLAN

This option could be used for both Windows Mobile and Windows CE based devices.

Remote Configuration requires the mobile device to be running. Place the mobile device in a cradle and make sure that the device does not go in to suspend mode. If a cradle is not available make sure that the device does not suspend until DataWedge Configuration is completed.

NOTE If DataWedge Remote Configuration is performed on a device which is not cradled, make sure the Wi-Fi radio does not go in to power save mode.

Go to *Start Menu* > *Programs* > *Motorola DataWedge* > *Remote Configuration* to open the Remote Configuration start page in Internet Explorer which provides preliminary instructions for setting up the connection. Remote Configuration makes use of pop-ups, cookies and scripts, so these must be enabled/permitted for remote configuration. Optional proxy configuration details are provided.

Enter the IP address of the mobile device in the *IP Address* text box and add an appropriate comment to identify the device in the *Description/Comment* text box. Click the **Add New** button to add the mobile device to the list. Now click either the **Basic** or **Advanced** buttons corresponding to the newly added device to invoke Basic or Advanced Configuration.

To delete an entry from the list click the corresponding **delete** link.

NOTE If the mobile device does not have a touch screen, use Microsoft PowerToys to enable the device wireless connectivity.

Appendix A Useful Information

Special Scenarios

Disabling the Barcode Scanner

On a Windows Mobile Phone Edition device or on a SmartPhone device, if a barcode is scanned, with the DataWedge default configuration, while the Today screen is in foreground, the output is captured by the phone dialer. This can result in an unwanted phone call.

This behavior can be disabled by the following;

1. Create a new profile
2. Disable the profile by making sure that *Enabled* is not ticked
3. In that profile, go to *Applications* and add a new application. For Windows mobile enter the application name as "*shell32.exe*". If the device is Windows CE based, enter "*explorer.exe*".
4. Save the profile by going back to the Profiles menu and press **OK** when the save settings confirmation appears.
5. Go back to the main menu and select *Settings*
6. Set *Profile Selection* to "*Auto*"
7. Exit Settings and select **OK** when the save settings confirmation appears.

This profile disables scanning while the Today screen is in foreground.

Preventing Data Loss in Remote Desktop

When using the Remote Desktop application to run an application on a remote Windows server, certain conditions (such as a slow connection) can cause occasional keystrokes to be ignored by Remote Desktop or the application it is running.

In this case, specify a value of 20ms or more for the *InterChar delay*.

Similarly, some application may have trouble dealing with large amounts of rapidly occurring keystrokes, as might be generated when scanning barcodes such as PDF417. Setting a suitable InterChar delay can mitigate this problem.

Auto Trigger & Presentation Mode

Auto Trigger is a feature introduced for laser based Micro Kiosk devices, such as the MK500, and enables continuous scanning. When used on battery powered mobile devices continuous scanning can have a significant effect on battery life.

Presentation mode is an Aim Type Reader Parameter introduced for imager based barcode scanners starting with the MK500 (Micro Kiosk). It enables the imager to automatically turn on illumination, as required, when motion is detected directly beneath it.

Although Auto Trigger and Presentation mode can be enabled simultaneously within DataWedge, care should be taken not to do so, especially in MK500 Imager devices where both modes are currently supported, as it can cause significantly increased CPU usage, resulting in the device appearing to be sluggish. Both Auto Trigger and Presentation mode provide similar functionality, it is therefore recommended to select the one most appropriate for the device e.g. Auto Trigger for laser based MK500 or Presentation mode for imager based MK500 devices.

Virtual Key Codes

The following table lists virtual key codes for a generic keyboard.

Table A-1 Virtual Key Codes

Key	Key Value (Decimal)	Key Value (Hexadecimal)
0	48	30
1	49	31
2	50	32
3	51	33
4	52	34
5	53	35
6	54	36
7	55	37
8	56	38
9	57	39
A	65	41
B	66	42
C	67	43
D	68	44
E	69	45
F	70	46
G	71	47

Table A-1 Virtual Key Codes

Key	Key Value (Decimal)	Key Value (Hexadecimal)
H	72	48
I	73	49
J	74	4A
K	75	4B
L	76	4C
M	77	4D
N	78	4E
O	79	4F
P	80	50
Q	81	51
R	82	52
S	83	53
T	84	54
U	85	55
V	86	56
W	87	57
X	88	58
Y	89	59
Z	90	5A
Space	32	20
Escape	27	1B
;	186	BA
=	187	BB
,	188	BC
-	189	BD
.	190	BE
/	191	BF
`	192	C0
[	219	DB
\	220	DC

Table A-1 Virtual Key Codes

Key	Key Value (Decimal)	Key Value (Hexadecimal)
]	221	DD
‘	222	DE
F1	112	70
F2	113	71
F3	114	72
F4	115	73
F5	116	74
F6	117	75
F7	118	76
F8	119	77
F9	120	78
F10	121	79
F11	122	7A
F12	123	7B
Page Up	33	21
Page Down	34	22
End	35	23
Home	36	24
Left	37	25
Up	38	26
Right	39	27
Down	40	28
Insert	45	2D
Delete	46	2E
Backspace	8	08
Tab	9	09
Print Screen	44	2C
Shift	16	10
Ctrl	17	11
Caps Lock	20	14

ASCII Table

Regular ASCII Chart (character codes 0 - 127)

000d	00h		(nul)	016d	10h	▶	(dle)	032d	20h	sp	048d	30h	0	064d	40h	@	080d	50h	P	096d	60h	`	112d	70h	p
001d	01h	☺	(soh)	017d	11h	◀	(dc1)	033d	21h	!	049d	31h	1	065d	41h	A	081d	51h	Q	097d	61h	a	113d	71h	q
002d	02h	☻	(stx)	018d	12h	↕	(dc2)	034d	22h	"	050d	32h	2	066d	42h	B	082d	52h	R	098d	62h	b	114d	72h	r
003d	03h	♥	(etx)	019d	13h	‼	(dc3)	035d	23h	#	051d	33h	3	067d	43h	C	083d	53h	S	099d	63h	c	115d	73h	s
004d	04h	♦	(eot)	020d	14h	¶	(dc4)	036d	24h	$	052d	34h	4	068d	44h	D	084d	54h	T	100d	64h	d	116d	74h	t
005d	05h	♣	(enq)	021d	15h	§	(nak)	037d	25h	%	053d	35h	5	069d	45h	E	085d	55h	U	101d	65h	e	117d	75h	u
006d	06h	♠	(ack)	022d	16h	▬	(syn)	038d	26h	&	054d	36h	6	070d	46h	F	086d	56h	V	102d	66h	f	118d	76h	v
007d	07h	•	(bel)	023d	17h	↨	(etb)	039d	27h	'	055d	37h	7	071d	47h	G	087d	57h	W	103d	67h	g	119d	77h	w
008d	08h	◘	(bs)	024d	18h	↑	(can)	040d	28h	(	056d	38h	8	072d	48h	H	088d	58h	X	104d	68h	h	120d	78h	x
009d	09h		(tab)	025d	19h	↓	(em)	041d	29h	)	057d	39h	9	073d	49h	I	089d	59h	Y	105d	69h	i	121d	79h	y
010d	0Ah		(lf)	026d	1Ah		(eof)	042d	2Ah	*	058d	3Ah	:	074d	4Ah	J	090d	5Ah	Z	106d	6Ah	j	122d	7Ah	z
011d	0Bh	♂	(vt)	027d	1Bh	←	(esc)	043d	2Bh	+	059d	3Bh	;	075d	4Bh	K	091d	5Bh	[	107d	6Bh	k	123d	7Bh	{
012d	0Ch	♀	(np)	028d	1Ch	∟	(fs)	044d	2Ch	,	060d	3Ch	<	076d	4Ch	L	092d	5Ch	\	108d	6Ch	l	124d	7Ch	|
013d	0Dh		(cr)	029d	1Dh	↔	(gs)	045d	2Dh	-	061d	3Dh	=	077d	4Dh	M	093d	5Dh	]	109d	6Dh	m	125d	7Dh	}
014d	0Eh	♫	(so)	030d	1Eh	▲	(rs)	046d	2Eh	.	062d	3Eh	>	078d	4Eh	N	094d	5Eh	^	110d	6Eh	n	126d	7Eh	~
015d	0Fh	☼	(si)	031d	1Fh	▼	(us)	047d	2Fh	/	063d	3Fh	?	079d	4Fh	O	095d	5Fh	_	111d	6Fh	o	127d	7Fh	⌂

Extended ASCII Chart (character codes 128 – 255; Codepage 850)

128d	80h	Ç	144d	90h	É	160d	A0h	á	176d	B0h	▒	192d	C0h	└	208d	D0h	ð	224d	E0h	Ó	240d	F0h	-
129d	81h	ü	145d	91h	æ	161d	A1h	í	177d	B1h	▒	193d	C1h	┴	209d	D1h	Ð	225d	E1h	ß	241d	F1h	±
130d	82h	é	146d	92h	Æ	162d	A2h	ó	178d	B2h	▓	194d	C2h	┬	210d	D2h	Ê	226d	E2h	Ô	242d	F2h	‗
131d	83h	â	147d	93h	ô	163d	A3h	ú	179d	B3h	│	195d	C3h	├	211d	D3h	Ë	227d	E3h	Ò	243d	F3h	¾
132d	84h	ã	148d	94h	ö	164d	A4h	ñ	180d	B4h	┤	196d	C4h	─	212d	D4h	È	228d	E4h	õ	244d	F4h	¶
133d	85h	à	149d	95h	ò	165d	A5h	Ñ	181d	B5h	Á	197d	C5h	┼	213d	D5h	ı	229d	E5h	Õ	245d	F5h	§
134d	86h	â	150d	96h	û	166d	A6h	ª	182d	B6h	Â	198d	C6h	ã	214d	D6h	Í	230d	E6h	µ	246d	F6h	÷
135d	87h	ç	151d	97h	ù	167d	A7h	º	183d	B7h	À	199d	C7h	Ã	215d	D7h	Î	231d	E7h	þ	247d	F7h	
136d	88h	ê	152d	98h	ÿ	168d	A8h	¿	184d	B8h	©	200d	C8h	╚	216d	D8h	Ï	232d	E8h	Þ	248d	F8h	°
137d	89h	ë	153d	99h	Ö	169d	A9h	®	185d	B9h	╣	201d	C9h	╔	217d	D9h	┘	233d	E9h	Ú	249d	F9h	¨
138d	8Ah	è	154d	9Ah	Ü	170d	AAh	¬	186d	BAh	║	202d	CAh	╩	218d	DAh	┌	234d	EAh	Û	250d	FAh	·
139d	8Bh	ï	155d	9Bh	ø	171d	ABh	½	187d	BBh	╗	203d	CBh	╦	219d	DBh	▮	235d	EBh	Ù	251d	FBh	¹
140d	8Ch	î	156d	9Ch	£	172d	ACh	¼	188d	BCh	╝	204d	CCh	╠	220d	DCh	▄	236d	ECh	ý	252d	FCh	³
141d	8Dh	ì	157d	9Dh	Ø	173d	ADh	¡	189d	BDh	¢	205d	CDh	═	221d	DDh	¦	237d	EDh	Ý	253d	FDh	²
142d	8Eh	Ä	158d	9Eh	×	174d	AEh	«	190d	BEh	¥	206d	CEh	╬	222d	DEh	Ì	238d	EEh	¯	254d	FEh	■
143d	8Fh	Å	159d	9Fh	ƒ	175d	AFh	»	191d	BFh	┐	207d	CFh	¤	223d	DFh	▀	239d	EFh	´	255d	FFh	

Hexadecimal to Binary

0	0000	8	1000
1	0001	9	1001
2	0010	A	1010
3	0011	B	1011
4	0100	C	1100
5	0101	D	1101
6	0110	E	1110
7	0111	F	1111

Groups of ASCII-Code in Binary

Bit 6	Bit 5	Group
0	0	Control Characters
0	1	Digits and Punctuation
1	0	Upper Case and Special
1	1	Lower Case and Special

Figure A-1 ASCII Table

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